

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Arizona	Arizona Corporation Commission	G-01551A-16-0107	Southwest Gas	2016	Gas Depreciation Study
Texas	Public Utility Commission of Texas	45414	Sharyland	2016	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	16A-0231E	Public Service of Colorado	2016	Electric Depreciation Study
Multi-State NE US	FERC	16-453-000	Northeast Transmission Development, LLC	2015	Electric Depreciaton Study
Arkansas	Arkansas Public Service Commission	15-098-U	CenterPoint Arkansas	2015	Gas Depreciation Study and Cost of Removal Study
New Mexico	New Mexico Public Regulation Commission	15-00296-UT	SPS NM	2015	Electric Depreciation Study
Atmos Energy Corporation	Tennessee Regulatory Authority	14-00146	Atmos Tennessee	2015	Natural Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	15-00261-UT	Public Service Company of New Mexico	2015	Electric Depreciation Study
Kansas	Kansas Corporation Commission	16-ATMG-079-RTS	Atmos Kansas	2015	Gas Depreciation Study
Texas	Public Utility Commission of Texas	44704	Entergy Texas	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-15-089	Fairbanks Water and Wastewater	2015	Water and Waste Water Depreciation Study
Arkansas	Arkansas Public Service Commission	15-031-U	Source Gas Arkansas	2015	Underground Storage Gas Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
New Mexico	New Mexico Public Regulation Commission	15-00139-UT	SPS NM	2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	44746	Wind Energy Transmission Texas	2015	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	15-AL-0299G	Atmos Colorado	2015	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	15-011-U	Source Gas Arkansas	2015	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10432	CenterPoint-Texas Coast Division	2015	Gas Depreciation Study
Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power and Light	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-120	Alaska Electric Light and Power	2014-2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43950	Cross Texas Transmission	2014	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	14-00332-UT	Public Service of New Mexico	2014	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43695	Xcel Energy	2014	Electric Depreciation Study
Multi State – SE US	FERC	RP15-101	Florida Gas Transmission	2014	Gas Transmission Depreciation Study
California	California Public Utilities Commission	A.14-07-006	Golden State Water	2014	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-17653	Consumers Energy Company	2014	Electric and Common Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Colorado	Public Utilities Commission of Colorado	14AL-0660E	Public Service of Colorado	2014	Electric Depreciation Study
Wisconsin	Wisconsin	05-DU-102	WE Energies	2014	Electric, Gas, Steam and Common Depreciation Studies
Texas	Public Utility Commission of Texas	42469	Lone Star Transmission	2014	Electric Depreciation Study
Nebraska	Nebraska Public Service Commission	NG-0079	Source Gas Nebraska	2014	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-055	TDX North Slope Generating	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-054	Sand Point Generating LLC	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-045	Matanuska Electric Coop	2014	Electric Generation Depreciation Study
Texas, New Mexico	Public Utility Commission of Texas	42004	Xcel Energy	2013-2014	Electric Production, Transmission, Distribution and General Plant Depreciation Study
New Jersey	Board of Public Utilities	GR13111137	South Jersey Gas	2013	Gas Depreciation Study
Various	FERC	RP14-247-000	Sea Robin	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-078-U	Arkansas Oklahoma Gas	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-079-U	Source Gas Arkansas	2013	Gas Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
California	California Public Utilities Commission	Proceeding No.: A.13-11-003	Southern California Edison	2013	Electric Depreciation Study
North Carolina/South Carolina	FERC	ER13-1313	Progress Energy Carolina	2013	Electric Depreciation Study
Wisconsin	Public Service Commission of Wisconsin	4220-DU-108	Northern States Power-Wisconsin	2013	Electric, Gas and Common Transmission, Distribution and General
Texas	Public Utility Commission of Texas	41474	Sharyland	2013	Electric Depreciation Study
Kentucky	Kentucky Public Service Commission	2013-00148	Atmos Energy Corporation	2013	Gas Depreciation Study
Minnesota	Minnesota Public Utilities Commission	13-252	Allete Minnesota Power	2013	Electric Depreciation Study
New Hampshire	New Hampshire Public Service Commission	DE 13-063	Liberty Utilities	2013	Electric Distribution and General
Texas	Railroad Commission of Texas	10235	West Texas Gas	2013	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-154	Alaska Telephone Company	2012	Telecommunications Utility
New Mexico	New Mexico Public Regulation Commission	12-00350-UT	SPS	2012	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1269ST	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1268G	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-149	Municipal Power and Light City of Anchorage	2012	Electric Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Texas	Texas Public Utility Commission	40824	Xcel Energy	2012	Electric Depreciation Study
South Carolina	Public Service Commission of South Carolina	Docket 2012-384-E	Progress Energy Carolina	2012	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-141	Interior Telephone Company	2012	Telecommunications Utility
Michigan	Michigan Public Service Commission	U-17104	Michigan Gas Utilities Corporation	2012	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	E-2 Sub 1025	Progress Energy Carolina	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40606	Wind Energy Transmission Texas	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40604	Cross Texas Transmission	2012	Electric Depreciation Study
Minnesota	Minnesota Public Utilities Commission	12-858	Minnesota Northern States Power	2012	Electric, Gas and Common Transmission, Distribution and General
Texas	Railroad Commission of Texas	10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10174	Atmos West Texas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10182	CenterPoint Beaumont/ East Texas	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-KCPE-764-RTS	Kansas City Power and Light	2012	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	12-04005	Southwest Gas	2012	Gas Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Texas	Railroad Commission of Texas	10147, 10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-ATMG-564-RTS	Atmos Kansas	2012	Gas Depreciation Study
Texas	Texas Public Utility Commission	40020	Lone Star Transmission	2012	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-16938	Consumers Energy Company	2011	Gas Depreciation Study
Colorado	Public Utilities Commission of Colorado	11AL-947E	Public Service of Colorado	2011	Electric Depreciation Study
Texas	Texas Public Utility Commission	39896	Entergy Texas	2011	Electric Depreciation Study
MultiState	FERC	ER12-212	American Transmission Company	2011	Electric Depreciation Study
California	California Public Utilities Commission	A1011015	Southern California Edison	2011	Electric Depreciation Study
Mississippi	Mississippi Public Service Commission	2011-UN-184	Atmos Energy	2011	Gas Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37050-R	Southwest Water Company	2011	WasteWater Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37049-R	Southwest Water Company	2011	Water Depreciation Study
Michigan	Michigan Public Service Commission	U-16536	Consumers Energy Company	2011	Wind Depreciation Rate Study
Texas	Public Utility Commission of Texas	38929	Oncor	2011	Electric Depreciation Study
Texas	Railroad Commission of Texas	10038	CenterPoint South TX	2010	Gas Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Alaska	Regulatory Commission of Alaska	U-10-070	Inside Passage Electric Cooperative	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	36633	City Public Service of San Antonio	2010	Electric Depreciation Study
Texas	Texas Railroad Commission	10000	Atmos Pipeline Texas	2010	Gas Depreciation Study
Multi State – SE US	FERC	RP10-21-000	Florida Gas Transmission	2010	Gas Depreciation Study
Maine/ New Hampshire	FERC	10-896	Granite State Gas Transmission	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38480	Texas New Mexico Power	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	38339	CenterPoint Electric	2010	Electric Depreciation Study
California	California Public Utility Commission	A10071007	California American Water	2009-2010	Water and Waste Water Depreciation Study
Texas	Texas Railroad Commission	10041	Atmos Amarillo	2010	Gas Depreciation Study
Georgia	Georgia Public Service Commission	31647	Atlanta Gas Light	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38147	Southwestern Public Service	2010	Electric Technical Update
Alaska	Regulatory Commission of Alaska	U-09-015	Alaska Electric Light and Power	2009-2010	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-043	Utility Services of Alaska	2009-2010	Water Depreciation Study
Michigan	Michigan Public Service Commission	U-16055	Consumers Energy/DTE Energy	2009-2010	Ludington Pumped Storage Depreciation Study

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
Michigan	Michigan Public Service Commission	U-16054	Consumers Energy	2009-2010	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15963	Michigan Gas Utilities Corporation	2009	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-15989	Upper Peninsula Power Company	2009	Electric Depreciation Study
Texas	Railroad Commission of Texas	9869	Atmos Energy	2009	Shared Services Depreciation Study
Mississippi	Mississippi Public Service Commission	09-UN-334	CenterPoint Energy Mississippi	2009	Gas Depreciation Study
Texas	Railroad Commission of Texas	9902	CenterPoint Energy Houston	2009	Gas Depreciation Study
Wyoming	Wyoming Public Service Commission	30022-148-GR10	Source Gas	2009-2010	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	09AL-299E	Public Service of Colorado	2009	Electric Depreciation Study
Tennessee	Tennessee Regulatory Authority	11-00144	Piedmont Natural Gas	2009	Gas Depreciation Study
Louisiana	Louisiana Public Service Commission	U-30689	Cleco	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35763	SPS	2008	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Wisconsin	Wisconsin	05-DU-101	WE Energies	2008	Electric, Gas, Steam and Common Depreciation Studies

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Asset Location	Commission	Docket (If Applicable)	Company	Year	Description
North Dakota	North Dakota Public Service Commission	PU-07-776	Northern States Power	2008	Net Salvage
New Mexico	New Mexico Public Regulation Commission	07-00319-UT	SPS	2008	Testimony – Depreciation
Multiple States	Railroad Commission of Texas	9762	Atmos Energy	2007-2008	Shared Services Depreciation Study
Minnesota	Minnesota Public Utilities Commission	E015/D-08-422	Minnesota Power	2007-2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35717	Oncor	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	34040	Oncor	2007	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15629	Consumers Energy	2006-2009	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	06-234-EG	Public Service of Colorado	2006	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	06-161-U	CenterPoint Energy – Arkla Gas	2006	Gas Distribution Depreciation Study and Removal Cost Study
Texas, New Mexico	Public Utility Commission of Texas	32766	Xcel Energy	2005-2006	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Texas	Railroad Commission of Texas	9670/9676	Atmos Energy Corp	2005-2006	Gas Distribution Depreciation Study

**LIBERTY UTILITIES (MIDSTATES
NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa
Book Depreciation Accrual Rate
Study
At September 30, 2015**



**LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY**

Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities (“Liberty” or “Company”), engaged Alliance Consulting Group to conduct a depreciation study of the Company’s Gas and Thermal utility plant depreciable assets as of September 30, 2015.

The study proposes depreciation parameters, including Average Service Life, Iowa Curve, and Net Salvage percentages as set forth in Appendix C, which are a result of actuarial analysis, statistical analysis, and professional judgement after meeting with various company experts. The Company has currently been using accrual rates resulting from various stipulations or decisions received in the past.

All annual accrual rates were determined using the straight line method, average life group (“ALG”) procedure, and remaining life technique. Depreciation and amortization rates reflect any imbalance between actual and theoretical reserves. Use of the remaining life depreciation system includes a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of each depreciable group.

Given the historical reserve position and the proposed life and net salvage parameters, this study recommends a reallocation of book reserve by plant account within each function. This reallocation does not change the total reserve within each function. Rather, reallocating the reserve within a function realigns the depreciation reserve balances within each function using the proposed life and net salvage parameters. Reallocation occurred within each functional group; such as transmission, distribution and general property. All accounts were reallocated using the theoretical reserve model.

This study recommends an overall decrease of approximately \$337 thousand in

annual depreciation expense, of which the largest driver was account 3800- Services having an annual decrease of \$284 thousand, decreasing the annual rate from 10.45% to 3.07%. Appendix B demonstrates the change in depreciation expense for the various Gas Plant accounts. The overall decrease in depreciation expense is driven by the changes in depreciation accrual rates as well as treatment of any book and theoretical reserve imbalance.

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
 D/B/A LIBERTY UTILITIES
 STATE OF IOWA
 DEPRECIATION RATE STUDY
 AT SEPTEMBER 30, 2015

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PURPOSE

The purpose of this study is to develop depreciation rates for gas and thermal depreciable property as recorded on the books of Liberty Utilities (Midstates Natural Gas) d/b/a Liberty Utilities, State of Iowa ("Liberty-Iowa" "Company") as of September 30, 2015.

The depreciation rates in this study were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of Liberty-Iowa's property on a straight-line basis. Liberty-Iowa is a regulated gas utility principally engaged in providing production and delivery services to customers in Iowa. Liberty-Iowa provides the essential service of producing and delivering natural gas safely, reliably and economically to end-use consumers through its transmission and distribution systems. Liberty Iowa also uses general plant to support its natural gas operations.

STUDY RESULTS

Recommended depreciation rates for Liberty-Iowa Gas depreciable property are shown in Appendix A. Appendix A contains the following sections: A- Computation of depreciation accrual rates for Liberty-Iowa Gas depreciable property, and A-1 Computation of amortization rates for Liberty-Iowa Gas amortized accounts. These rates translate into an annual depreciation accrual of approximately \$529 thousand based on Liberty-Iowa's depreciable gas plant investment at September 30, 2015. A comparison between depreciation rates and annual accruals at current levels versus the proposed rates and resulting annual accruals is shown in Appendix B. As shown in Appendix B, the current annual depreciation expense calculated by the same method using the existing approved depreciation rates is approximately \$866 thousand for Liberty-Iowa's gas assets, resulting in a decrease of \$337 thousand in total annual depreciation expense. The proposed lives and net salvage parameters on which these calculations are based is shown in Appendix C. The net salvage analysis is shown in Appendix D.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense; that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. At retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

Annual and accrued depreciation were calculated in this study by the straight-line, vintage group, remaining-life depreciation system. In this system, the annual depreciation expense for each vintage is computed by dividing the original cost of the asset vintage (less allocated depreciation reserve less estimated net salvage) by its respective average remaining life. The resulting annual accrual amounts were divided by the original cost of the depreciable property in each account to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group, and were computed in a direct weighting by multiplying each vintage or account balance times its remaining life and dividing by the plant investment in service at September 30, 2015. The computations of the annual depreciation rates are shown in Appendix A through A-1, and the comparison of proposed vs current depreciation rates is shown in Appendix B.

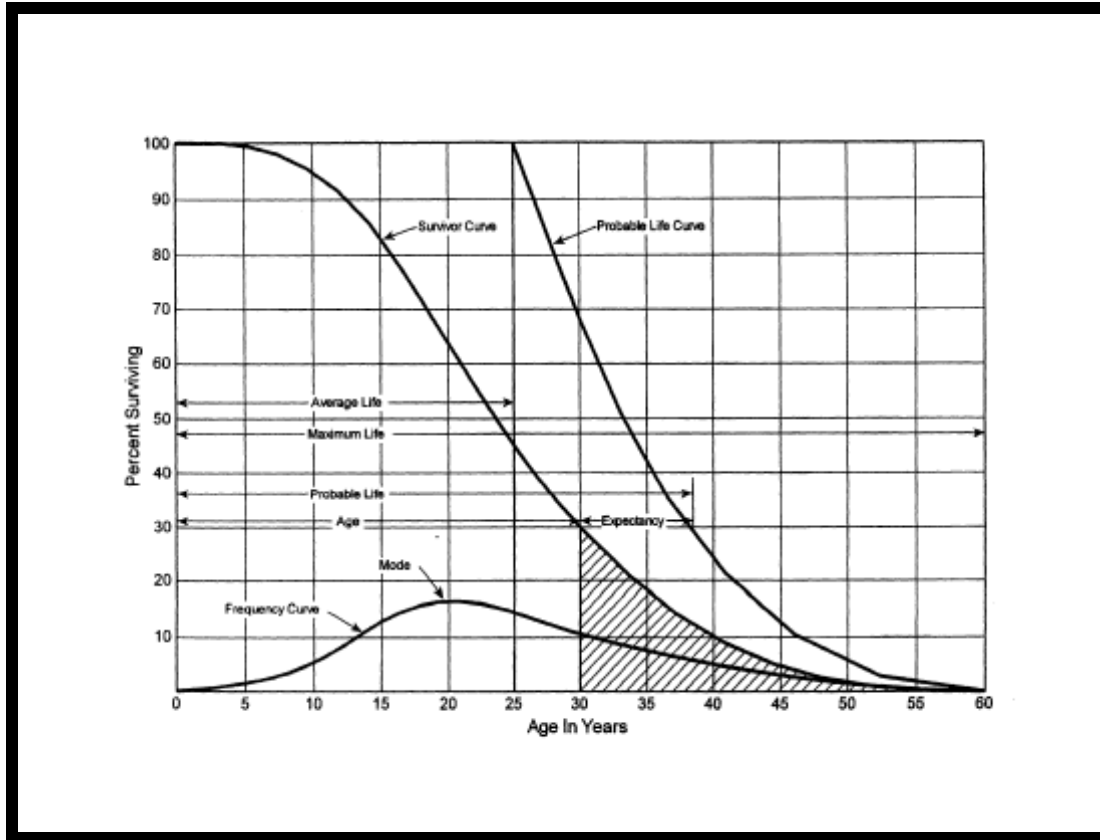
An actuarial analysis approach was incorporated into the analyses of Liberty-Iowa data. This method has been used by utility companies across the regulated industry. Vintaged information was assembled in this study to allow actuarial analysis

to be performed. Judgment was used to a greater or lesser degree on each account. This approach is more fully described in a later section.

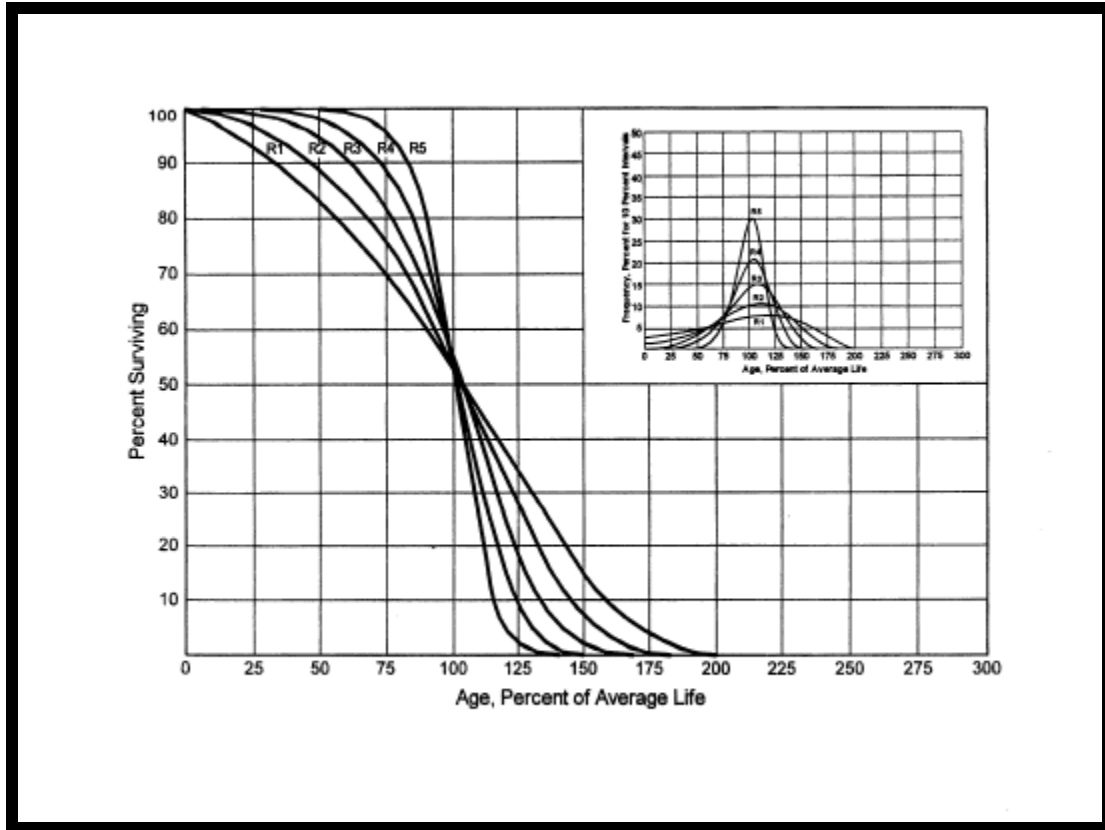
Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of Survivor Curves. Individual assets within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by comparing actual experience against various Survivor Curves. A Survivor Curve represents the percentage of property remaining in service at various age intervals. The most widely used set of representative Survivor Curves are the Iowa Survivor Curves (Iowa Curves). The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at the Iowa State College Engineering Experiment Station in the first half of the twentieth century.

Through common usage, revalidation, and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves which are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. The four families are designated as “R”— Right, “S” — Symmetric, “L” — Left, and “O” — Origin Modal. First, for distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of “R” moded curves is shown below.



Second, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. Third, an "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. Fourth, a special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, Survivor Curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

For all depreciable accounts, a Survivor Curve pattern was selected based on analyses of historical data, as well as other factors, such as general changes relevant to the Company's operations. The blending of professional judgment concerning current conditions and future trends, along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern. Iowa Curves were used to depict the estimated Survivor Curves for each account.

Actuarial Analysis

Actuarial analysis (retirement rate method) was used in evaluating historical asset retirement experience where vintage data were available and sufficient retirement activity was present. In an actuarial analysis, interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated. The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all of the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table. The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. Many accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience bands were used to focus on retirement history for all vintages during a set period. Matching data in observed life tables for each experience and placement band to an Iowa Curve requires visual examination. As stated in widely-cited text, Depreciation Systems by Wolf and Fitch, "the analyst must decide which points or sections of the curve should be given the most weight. Points at the end of the curve are often based on fewer exposures and may be given less weight than those points based on larger samples" (page 46). Some analysts chose to use mathematical fitting as a tool to narrow the population of curves using a least squares technique. Use of the least squares approach does not

imply a statistical validity; however, because the underlying data does not meet the criteria for independence between vintages and the same average price for property units through time. Thus, Depreciation Systems cautions, "... the results of mathematical fitting should be checked visually and the final determination of best fit made by the analyst" (page 48). This study uses the visual matching approach to match Iowa Curves, since mathematical fitting produces theoretically possible curve matches. Visual examination and experienced judgment allow the depreciation professional to make the final determination as to the best curve type.

Detailed information for each account is shown later in this study and in workpapers.

In this study all assets in three contiguous states were analyzed together: Iowa, Illinois, and Missouri. There were data limitations in modeling actuarial data for Liberty assets. All properties currently operated by Liberty were owned by Atmos Energy. Detailed historical records of transactional activity were available only from 2000 forward for all three states. Data extracted from the Atmos Energy plant accounting system provided data from 2000-2012, and data from Liberty's records were provided from 2012-2015. One state, Missouri, had data prior to 2000, but the other two states did not have any records predating 2000. For these reasons, an experience band of 2000-2015 was run for each account where retirement data was available. In general three placement bands were run: overall, mid-range, and 2000-2015.

Judgment

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. In this depreciation study, judgment was used in areas such as Survivor Curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Where there are multiple factors, activities, actions, property characteristics,

statistical inconsistencies, property mix in accounts or a multitude of other considerations that affect the analysis (potentially in various directions), judgment is used to take into account all of these considerations and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one consideration in these cases may have a substantial impact on the analysis, but overall, the collective effect of these considerations may shed light on the use and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent the application of informed professional judgment and experience.

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. After the first three stages were complete, the fourth phase began. This phase involved the calculation of depreciation rates and documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources: Projects System (construction ledger), Fixed Asset System (continuing property ledger), General Ledger, and interfaces from other operating systems. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively so that it could be put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Consideration section of this study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would be helpful in formulating life and salvage recommendations in this study. One of the most important elements in performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Understanding industry and geographical norms for mortality characteristics are important factors in selecting life and salvage recommendations; however, care must be used not to apply them rigorously to any particular company since no two companies would have the same exact forces of retirement acting upon their assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is helpful when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in the

Detailed Discussion portions of the Life Analysis and Salvage Analysis sections and also in workpapers. In addition, Alliance personnel possess a significant understanding of the property and its forces of retirement due to years of day-to-day exposure to property and the operations of gas utility property.

Phase 2 is where the actuarial analysis was performed. Phase 2 and Phase 3 overlap to a significant degree. The detailed property records information was used in Phase 2 to develop observed life tables, graphs and statistics for analysis. Net salvage analysis consists of compiling historical salvage and removal data by account to determine values and trends in gross salvage and removal cost. This information was then carried forward into Phase 3 for the evaluation process.

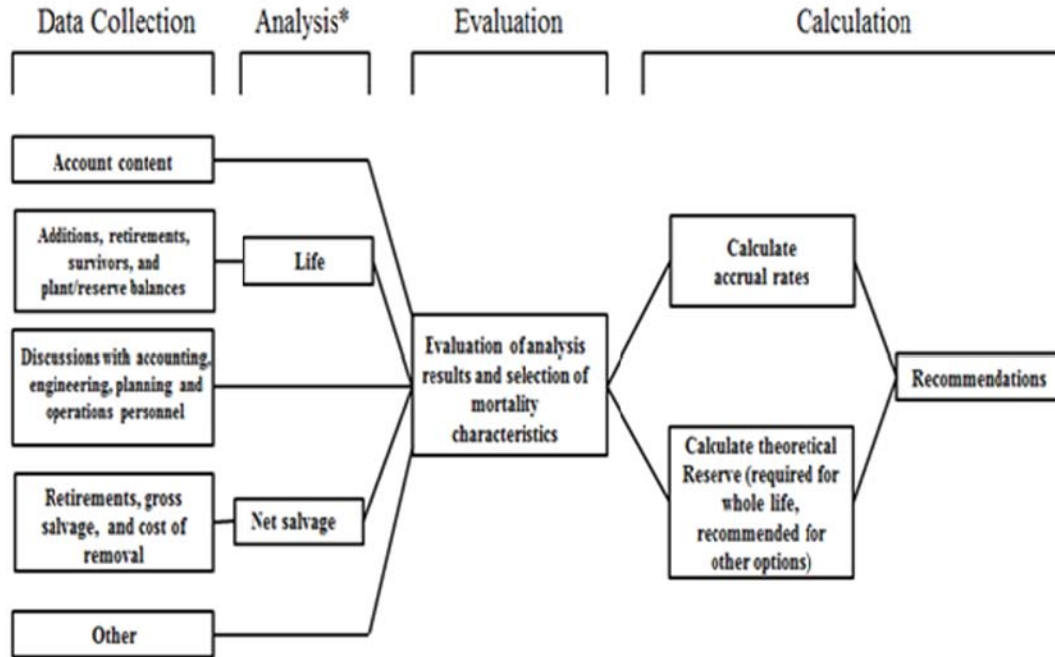
Phase 3 is the evaluation process, which synthesized analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from Phase 2 was further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. The preliminary results were then reviewed and discussed with Company accounting and operations personnel. Phases 2 and 3 validated the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1¹ documents the steps used in conducting this study. Depreciation Systems², a well-respected scholarly treatise on the topic of depreciation, documents the same basic processes in performing a depreciation study, including statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.

¹ Introduction to Depreciation for Public Utilities and Other Industries, AGA EEI, 2013

² Wolf, F. K. and Fitch, W. C. Depreciation Systems, Iowa State University Press, 1994, page 289.

Book Depreciation Study Flow Diagram



Source: Introduction to Depreciation for Public Utilities and Other Industries, AGA EEI, 2013.

*Although not specifically noted, the mathematical analysis may need some level of input from other sources (for example, to determine analysis bands for life and adjustments to data used in all analysis).

LIBERTY UTILITIES DEPRECIATION STUDY PROCESS

Depreciation Calculation Process

Annual depreciation expense amounts for depreciable accounts were calculated by the vintage group, straight line, remaining life procedure.

In a whole life representation, the annual accrual rate is computed by the following equation,

$$AnnualAccrualRate = \frac{(100\% - NetSalvagePercent)}{AverageServiceLife}$$

The vintage group procedure considers each year of plant placement as a separate group, unlike the broad group model which combines all placement years into one group. The vintage group model uses a unique Survivor Curve for each vintage to combine observed and forecast survivor ratios rather than a single curve for each vintage as the broad group model does.

Use of the remaining life depreciation system adds a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of the group. With the straight line, remaining life, average life group system using Iowa Curves, composite remaining lives were calculated according to standard broad group expectancy techniques, noted in the formula below:

$$Composite\ RemainingLife = \frac{\sum VintageOriginalCost * RemainingLife}{\sum TotalOriginalCost}$$

For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the composite remaining life to yield the annual depreciation expense as noted in this equation.

$$AnnualDepreciationExpense = \frac{OriginalCost - Book\ Reserve - (OriginalCost) * (1 - NetSalvage\ %)}{Composite\ RemainingLife}$$

where the net salvage percent represents future net salvage.

Within a group, the sum of the group annual depreciation expense amounts, as a percentage of the depreciable original cost investment summed, gives the annual

depreciation rate as shown below:

$$AnnualDepreciationRate = \frac{\sum AnnualDepreciationExpense}{\sum OriginalCost}$$

Average salvage was assumed equal to future net salvage when computing reserve ratios. These calculations are shown in Appendix D. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves are maintained on an account level and were used to compute depreciation rates for each account.

LIFE ANALYSIS

Gas Transmission Accounts, FERC Accounts 366.0-370.0

FERC Account 366.0 Structures and Improvements (50 S3)

This account consists of buildings and other related structures and improvements related to transmission operations. There is currently no plant in Iowa and \$3.9 thousand in total plant for the Company. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 50 S3 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 366.1 T&D-Other Structures (50 S3)

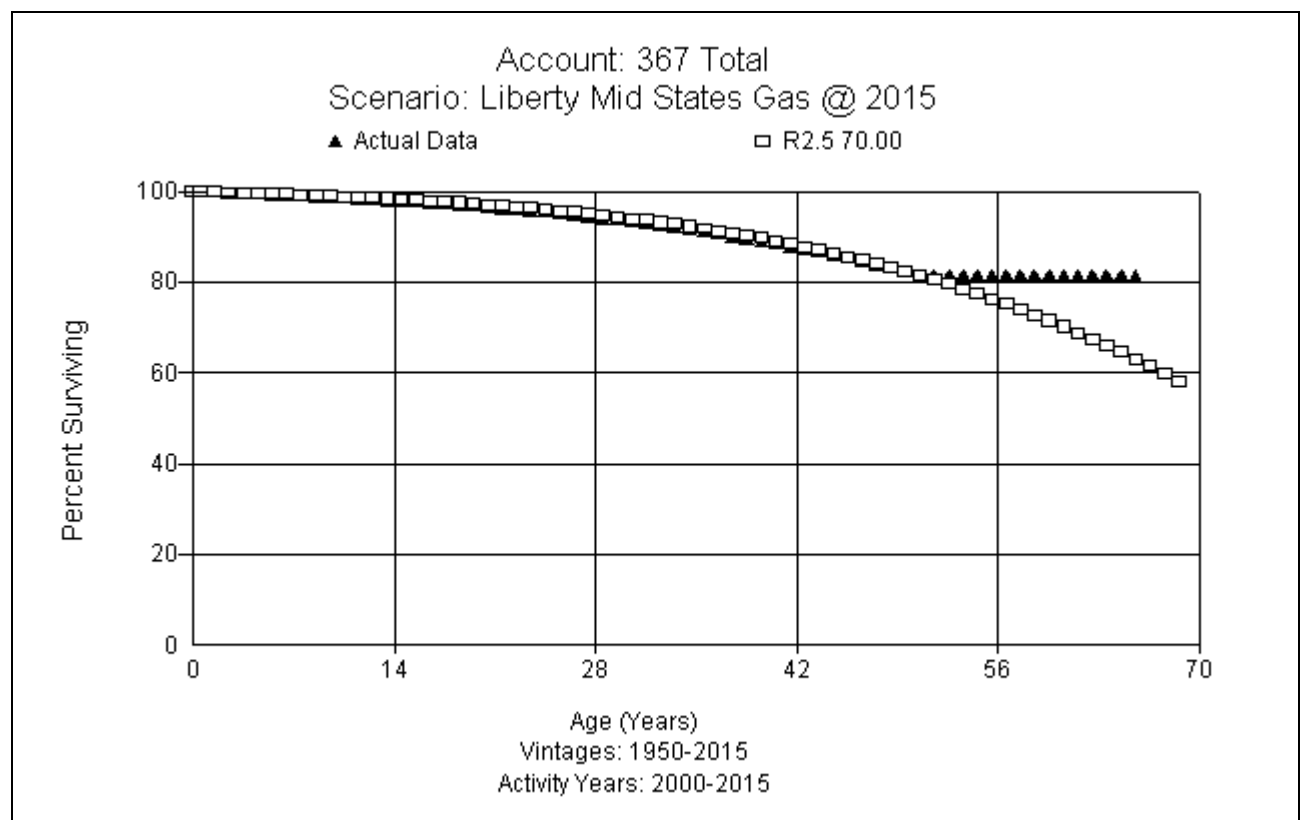
This account consists primarily of fences and pipeline rebranding related to control of the transmission systems. There is currently \$140 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$41.9 thousand. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 50 S3 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 367.0 Transmission Mains Cathodic Protection (25 SQ)

This account consists of cathodic protection assets for transmission mains such as anodes, ground beds, and rectifiers. There is currently no plant in Iowa and \$98.6 thousand in total plant for the Company. There were few retirements in this account from 2000-2015. Based on judgment, this study recommends a 25 SQ curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 367.1 Transmission Mains Steel (70 R2.5)

This account consists of t steel transmission mains of various diameters and related assets such as clamps odorant equipment, and vaults. There is currently \$12.4 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$1.2 million. Liberty operations personnel report that they see little deterioration in mains, and that most of the transmission mains are from the 1950s and 1960s. They opine that current requirements for mains are creating a better quality product than in the past. This study recommends a 70 R2.5 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 367.2 Transmission Mains Plastic (see Acct 367.1)

This account consists of plastic transmission mains of various diameters. Upon review by Liberty operations personnel, it was determined that the mains should have been booked in account 367.1, since plastic mains would not withstand the pressure transmission assets must perform at. Liberty will transfer these assets to account 367.1, and no plant will be booked in this account in the future.

FERC Account 369.0 M&R Station Equipment (40 R2.5)

This account consists of transmission metering and regulating station equipment such as odorizers, chart recorders, and regulators. There is currently \$875 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$208 thousand. Liberty operations personnel report that transmission M & R equipment generally operates at higher pressure. Some equipment such as control valves and regulators would generally be the same as distribution, in-line heaters are generally found only on transmission. The Company has budgeted to start replacing “take points” (transmission stations) going in to the future. They are currently working on 3, two of which will finish in 2015 and another that will be completed in 2016. There have been limited retirements in this account, which make the life for this account appear much longer than is reasonable for these assets. Based on judgment, this study recommends a 40 R2.5 curve for this account. No graph is provided.

FERC Account 370.0 Communication Equipment (25 S2.5)

This account consists of microwave and radio communication equipment and related assets. There is currently no plant in Iowa and \$5 thousand in total plant for the Company. Operations personnel report that now employees communicate by cell (new technology) as opposed to using RTUs in the past. Liberty is starting to replace RTUs because the older assets are failing and replacement parts are not available. Based on judgment, this study recommends a 25 S2.5 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is shown.

Gas Distribution Accounts, FERC Accounts 374.2- 387.0

FERC Account 374.2 Distribution Land Rights (70 R2.5)

This account consists of land rights associated with distribution operations. There is currently \$306 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$25 thousand. There were no retirements in this account from 2000-2015. Based on the life of distribution mains, this study recommends a 70 R2.5 curve for this account. No graph is provided.

FERC Account 375.0 Structures and Improvements (45 R2)

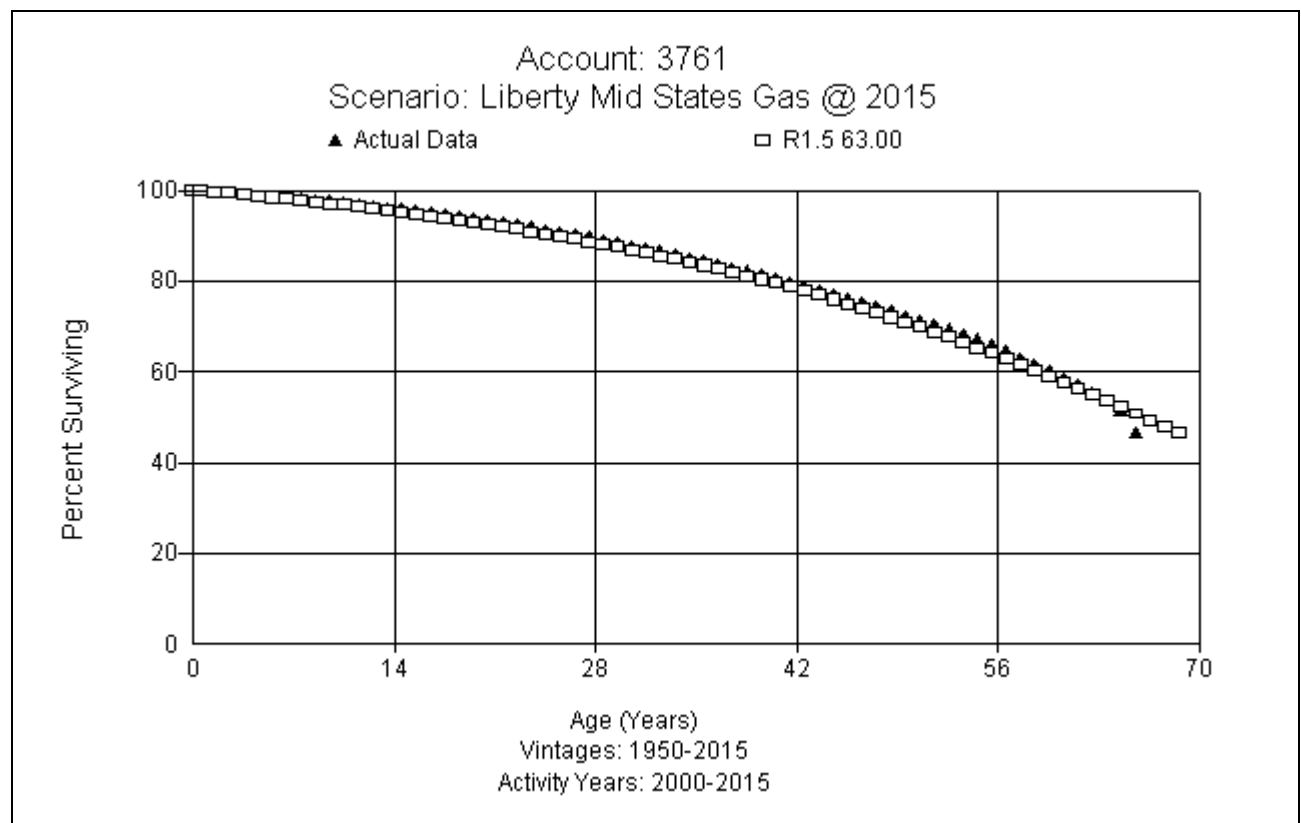
This account consists of structures and improvements, fences and buildings related to distribution operations. There is currently \$87 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$3 thousand. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 45 R2 curve for this account. No graph is provided.

FERC Account 376.0 Distribution Mains Cathodic Protection (25 SQ)

This account consists of cathodic protection equipment, such as anodes, valves, clamps, rectifiers, and ground beds associated with distribution mains. There is currently \$3.2 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$127 thousand. Operations personnel report that anode beds are designed to last twenty years. They report that rectifiers will last longer although there have been some replacements. Based on operations input and characteristics of the assets, this study recommends a 25 SQ curve for this account. No graph is provided.

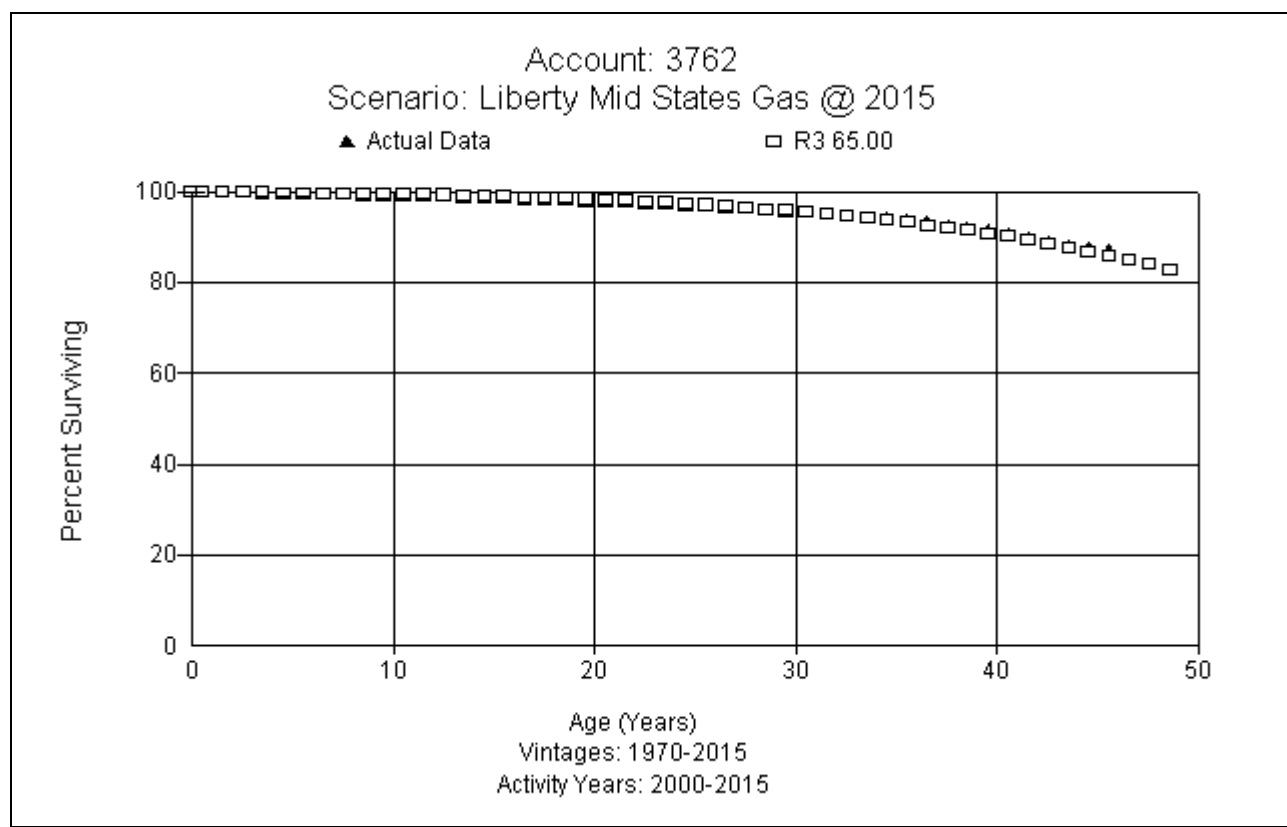
FERC Account 376.1 Distribution Mains Steel (63 R1.5)

This account consists of distribution mains and associated equipment. There is currently \$28.5 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$1.4 million. The material types in this account are cast iron, bare steel, bare unprotected steel, and PVC, and protected steel. Operations personnel expect the life of this account to be shorter than transmission mains in 3671, because there is more bare steel and the material is not as robust. For protected steel, operations expect a 65 to 70 year life. Since the process of replacing bare steel is underway, this mediates the longer life seen by transmission mains. Based on judgement, history, and input from Company personnel, this study recommends a 63 R1.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



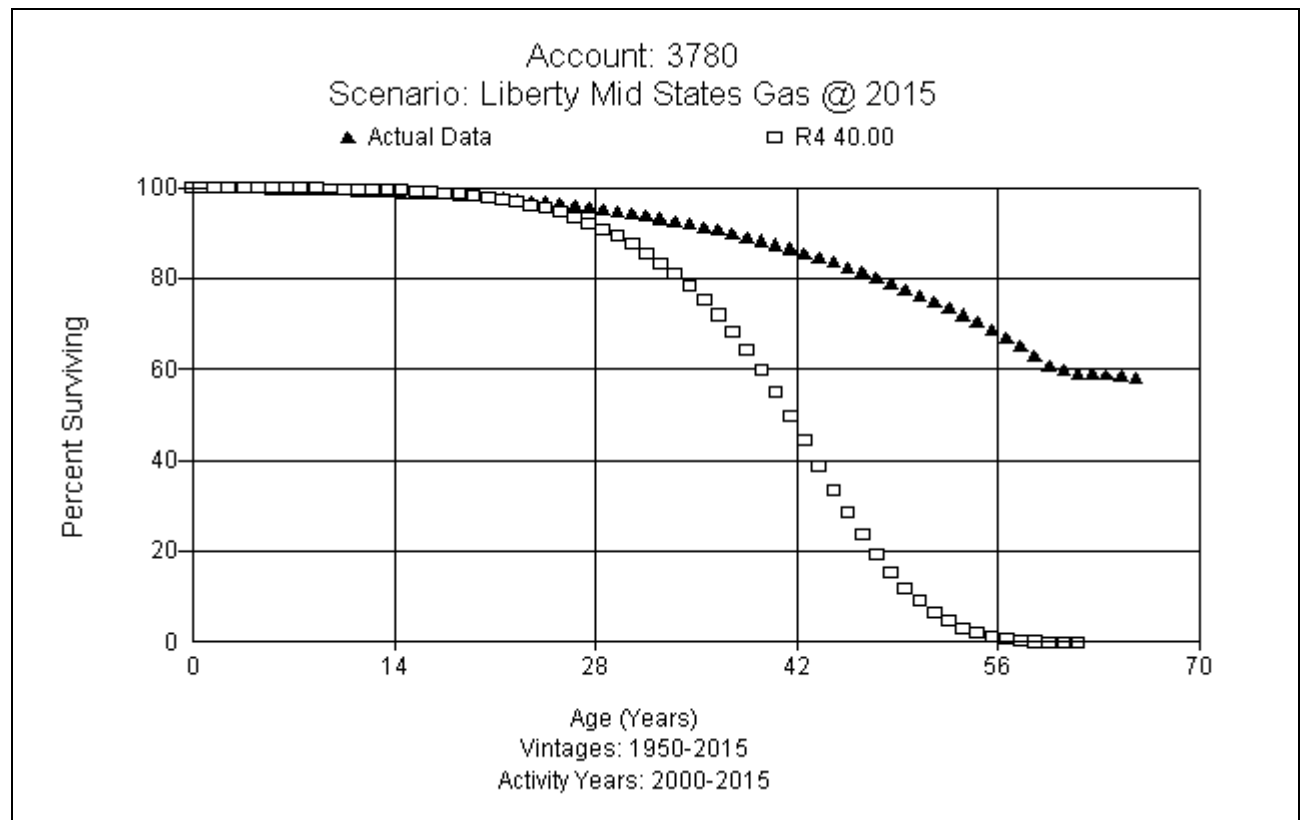
FERC Account 376.2 Distribution Mains Plastic (65 R3)

This account consists of plastic distribution mains and associated equipment. There is currently \$42.6 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$2.5 million. The Company began installed plastic pipe in the 1970s. Some first generation plastic pipe and pre-1983 pipe needs to be removed. Operations personnel hope plastic will last as long as steel, but there is no certainty on the life cycle. Historical data is limited since the experience band is only 2000-2015. Based on judgment, this study recommends a 65 R3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



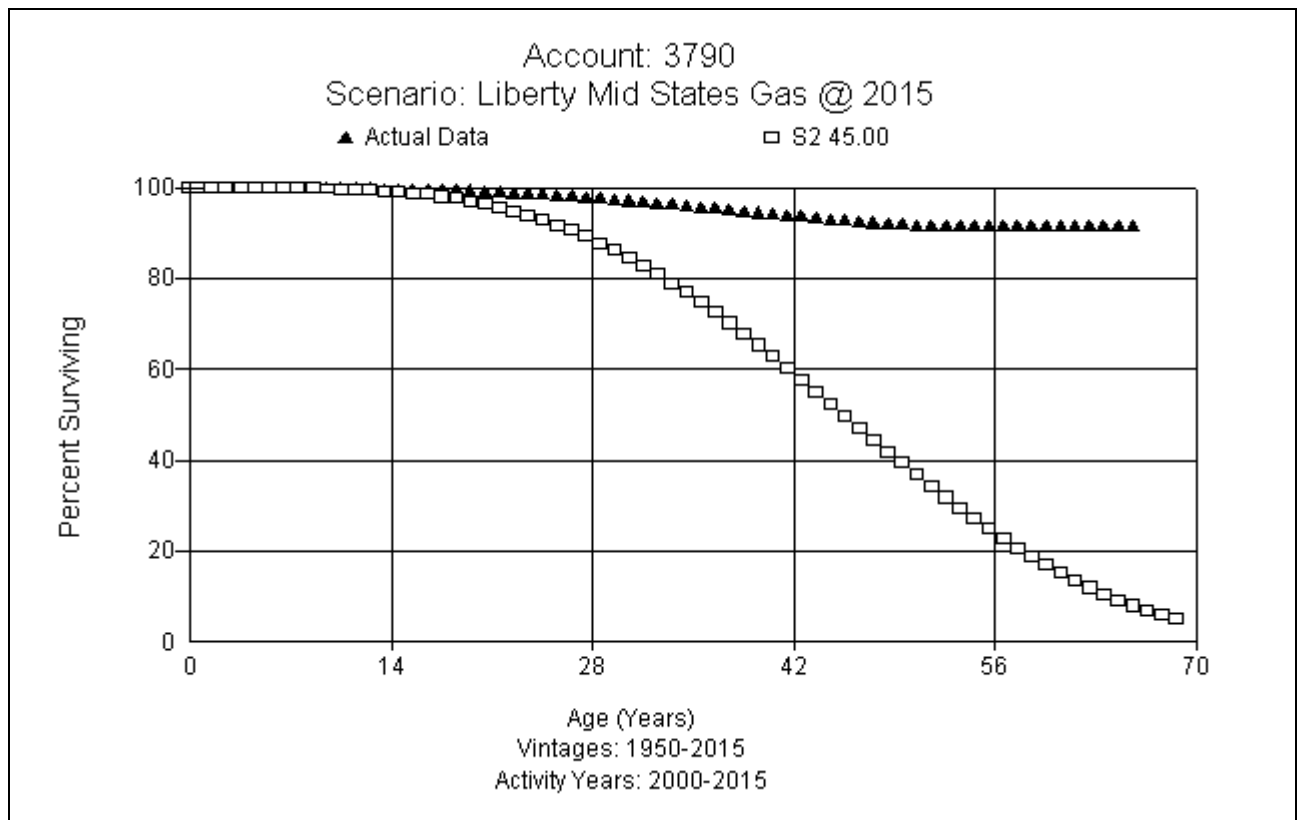
FERC Account 378.0 M&R Station Equipment – General (40 R4)

This account consists of M&R station piping, regulators, controls, odorizers and other equipment used in distribution measuring and regulating stations. There is currently \$2.9 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$155 thousand. Operations personnel expect the life of account 378 to be shorter than account 379-city gates. Company personnel report that they have replaced hardware in field (SCADA) equipment and a number of relief valves in recent years. This study recommends a 40 R4 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



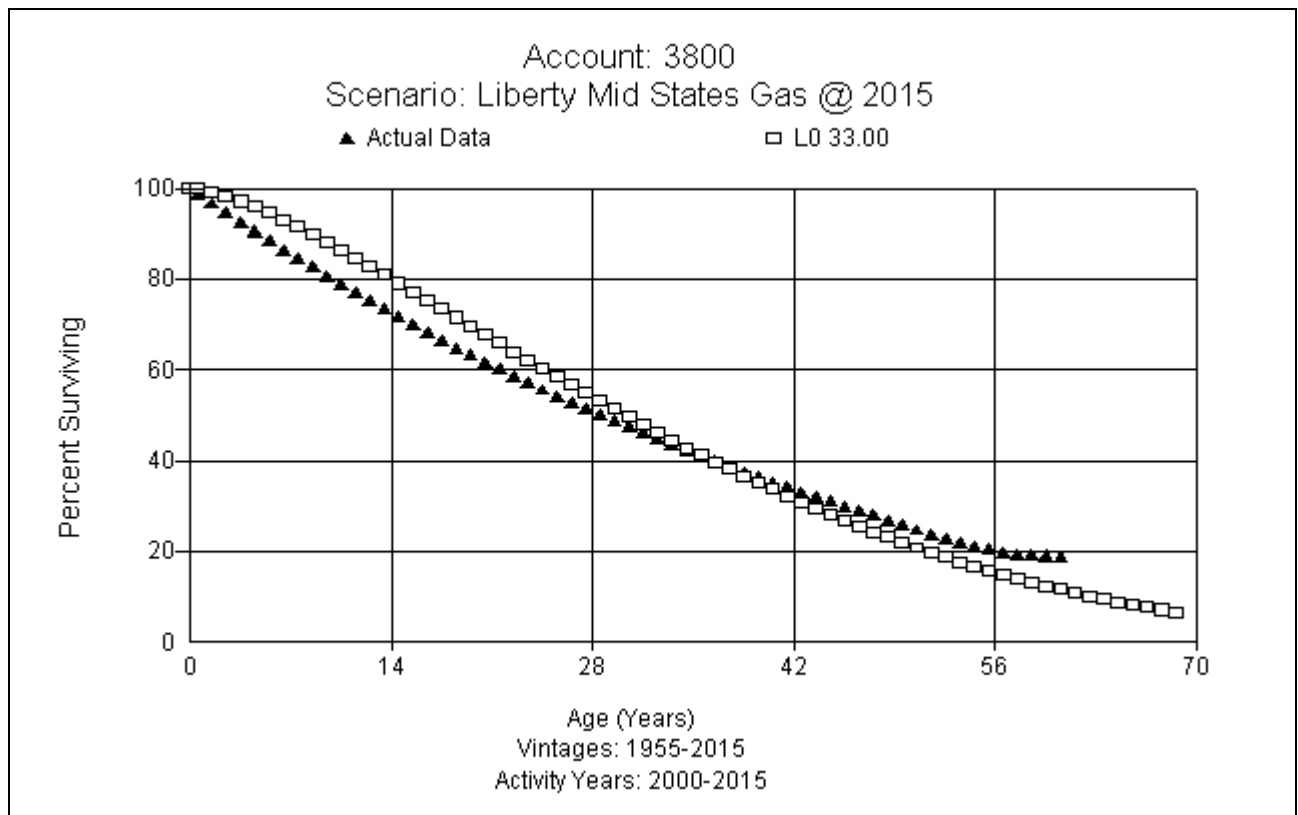
FERC Account 379.0 M&R Station Equipment – City Gate (45 S2)

This account consists of M&R station piping, regulators, controls, odorizers, and other equipment used in city gate distribution measuring and regulating stations. There is currently \$2.7 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$357 thousand. Operations personnel expect the life of account 379 to be longer than account 378-measuring and regulating stations. Company personnel report that they have replaced a number of relief valves in recent years. This study recommends a 45 S2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 380.0 Services (33 L0)

This account consists of assets related to distribution services. There is currently \$45.9 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$3.8 million. This account includes various material types: copper, plastic and steel. Iowa gas a copper service replacement program in place. Company personnel report that services are being damaged by third parties and relocations. For the past 35 years, plastic has been the predominant material in this account. Company personnel expect the life of services to be shorter than the life of mains. In 2016, the company will focus retiring inactive service (approximately 20K services). Based on history and judgement, this study recommends a 33 L0 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

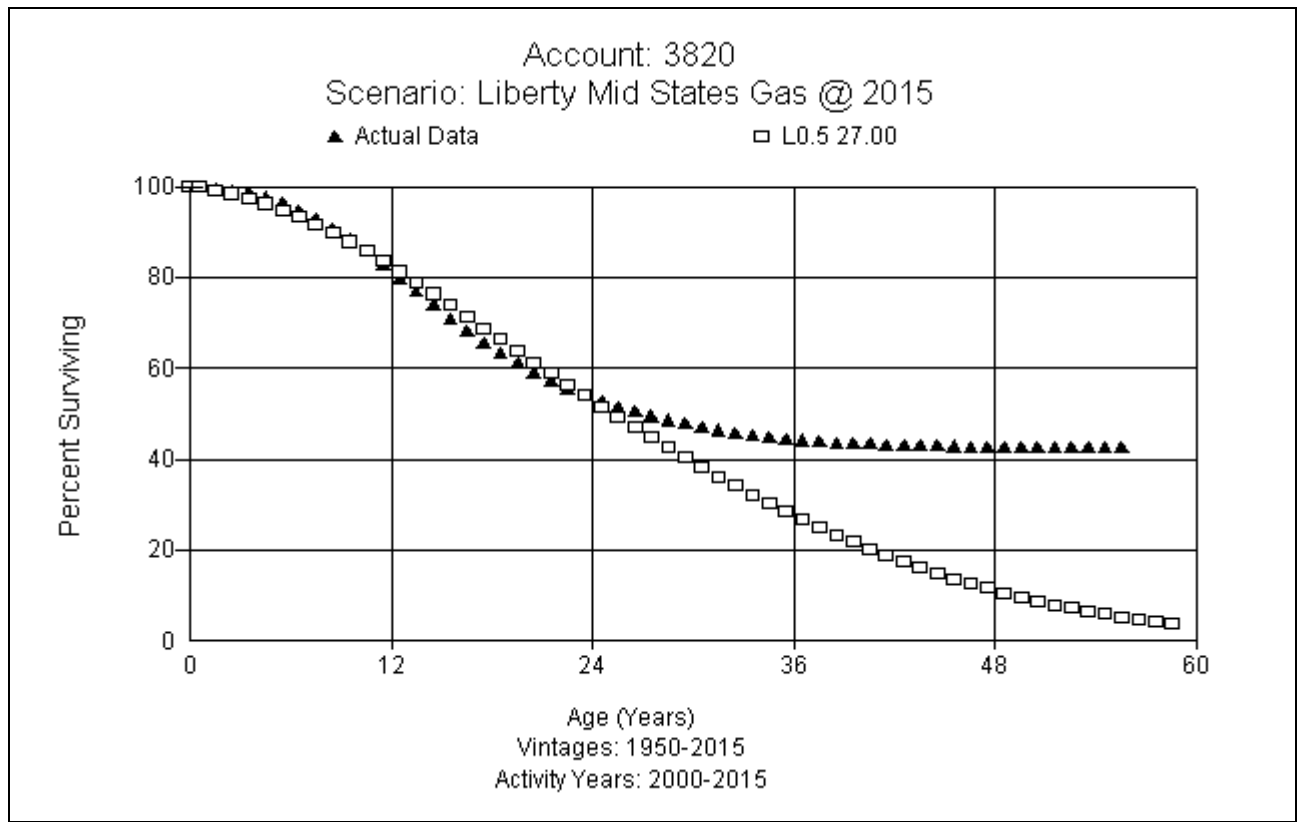


FERC Account 381.0 Meters (10 SQ)

This account consists of meters and meter reading equipment. There is currently \$13.4 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$1.5 million. The Company's meter assets vary by state: Iowa is 100% AM, Illinois has farm taps and 2% AMI, and Missouri has about 1.5% AMR. Iowa samples ten percent of meters and retires that proportion every year. The company removes and tests 10% of its meters each year in Iowa. Based on the Company's input that this practice will continue into the future, a 10 year life is assigned for meters. No graph is shown.

FERC Account 382.0 Meter Installations (27 L0.5)

This account consists of meter installation equipment. There is currently \$20.4 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$1.7 million. Based on Company history and judgment, this study recommends a 27 L0.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 383.0 House Regulators (27 L0.5)

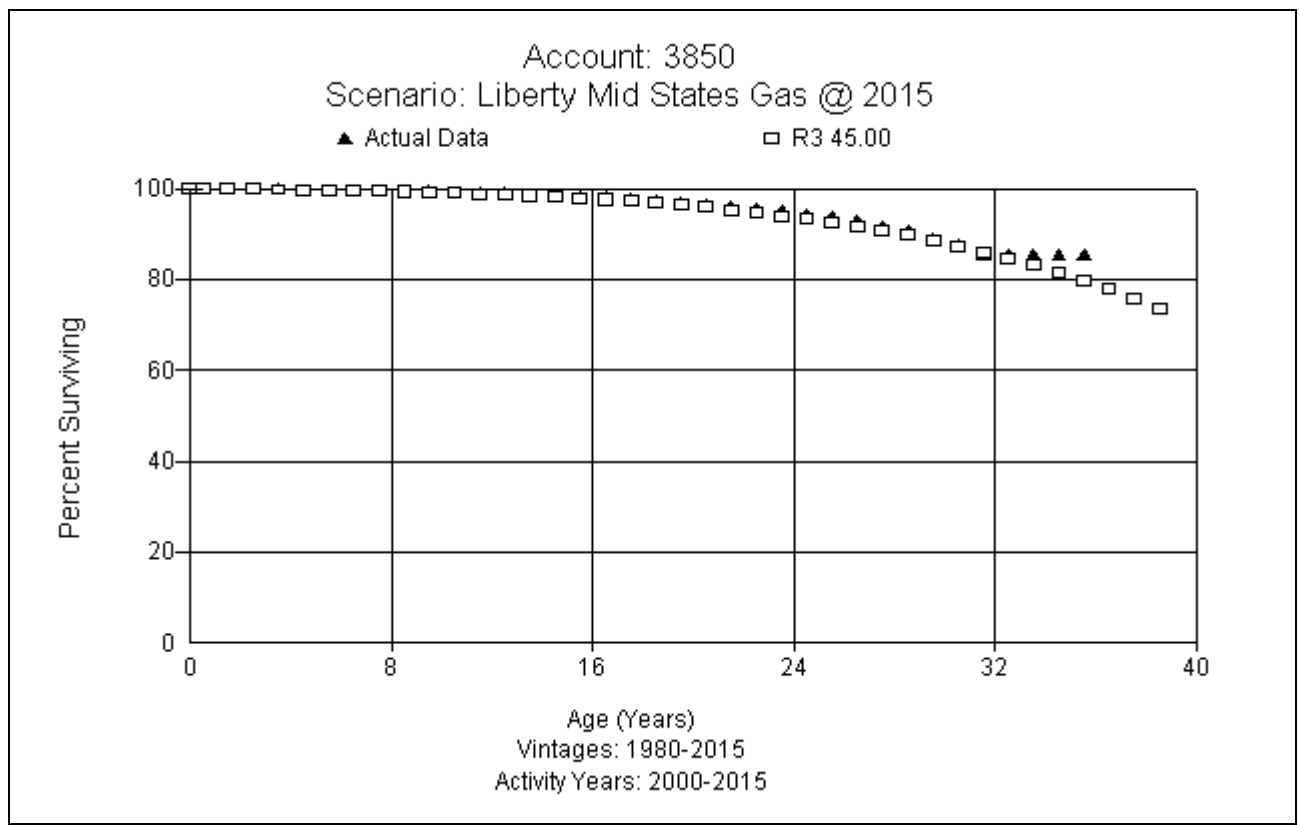
This account consists of house regulators and equipment. There is currently \$3.2 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$133 thousand. There is limited history to analyze. Based on judgment, this study recommends a 27 L0.5 curve for this account, the same as account 382.0. No graph is provided.

FERC Account 384.0 House Regulatory Installations (27 L0.5)

This account consists of house regulatory installation equipment. There is currently no plant in Iowa and \$732 thousand in total plant for the Company. There is limited history to analyze. Based on judgment, this study recommends a 27 L0.5 curve for this account, the same as account 382.0. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 385.0 Industrial M&R Station Equipment (45 R3)

This account consists of industrial measuring and regulating station equipment. There is currently \$783 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$2 thousand. The Company is upgrading a number of meter sets. Company personnel believe there should not be much difference between the life of this account and 378 and 379. Based on results with other accounts and judgment, this study recommends a 45 R3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 387.0 Other Equipment (10 R2)

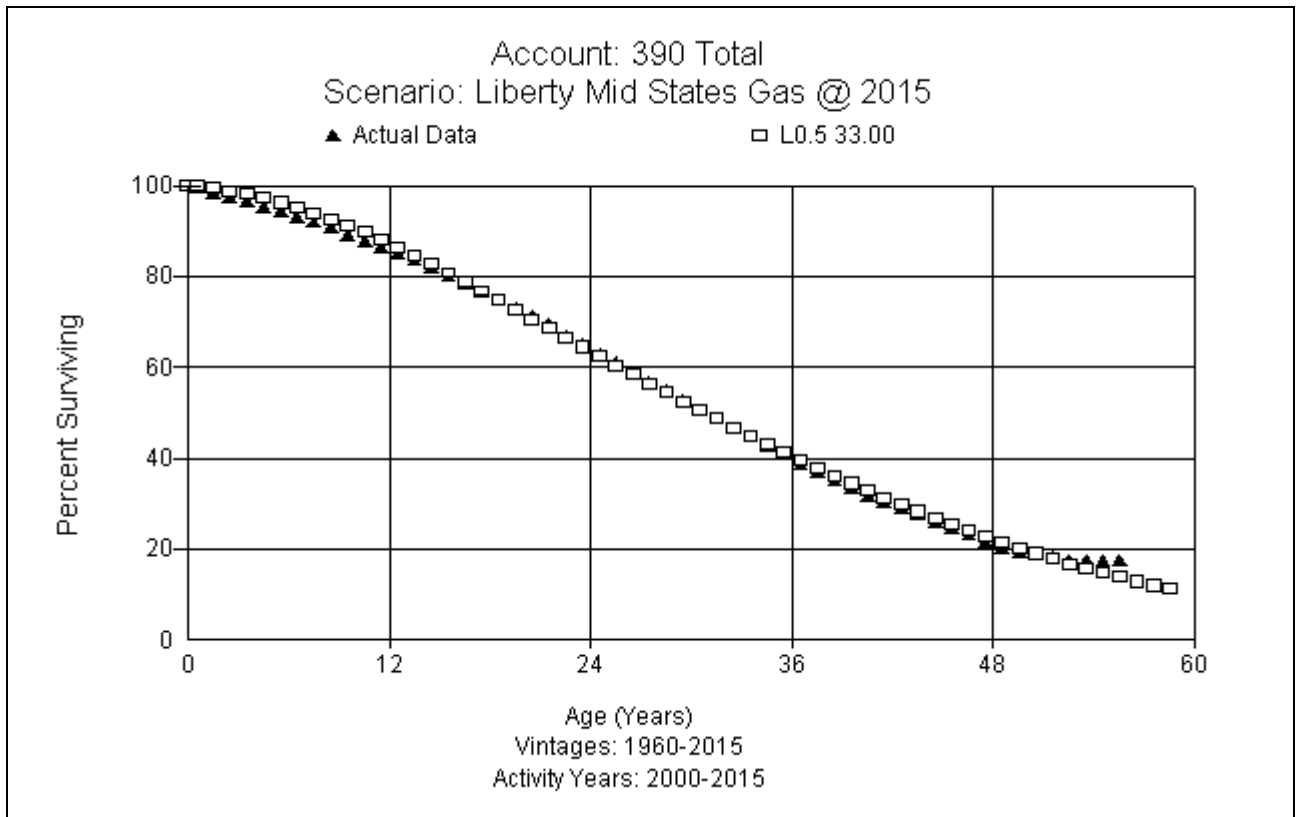
This account consists of other equipment. There is currently \$97 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$54 thousand. The assets in this account include tools, calibration equipment, software, and locators. There is no retirement history for this account. Based on judgment, this study recommends a 10 R2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

Gas General Accounts, FERC Accounts 390.0-399.5

GENERAL PLANT DEPRECIATED ACCOUNTS

FERC Account 390 General Structures & Improvements (33 L0.5)

This account consists of general office structures, and other components such as roofs, cabinets, HVAC equipment, yard improvements, and security systems. There is currently \$3.1 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$81 thousand. All 390 subaccounts were combined for life analysis in this account. Based on life analysis, this study recommends a 33 L0.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 390.1 General Structure Frame (33 L0.5)

This account consists of frame structures in general plant. There is currently no plant in Iowa and \$68 thousand in total plant for the Company. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 390.2 General Improvements (33 L0.5)

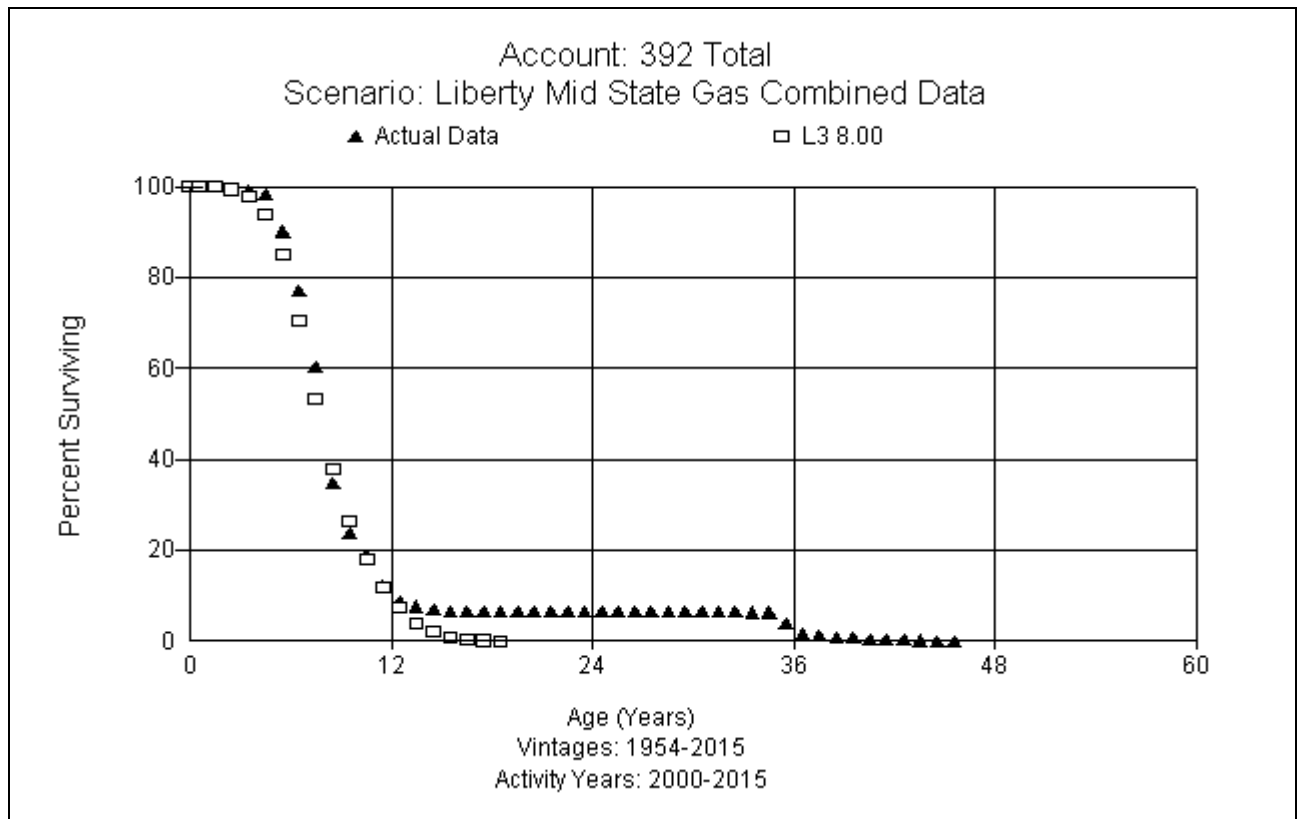
This account consists of leasehold improvements. There is currently \$86 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$17 thousand. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

FERC Account 390.3 General Improvements – Leased Premise (33 L0.5)

This account consists of improvements such as cooling equipment related to leased buildings. There is currently no plant in Iowa and \$52 thousand in total plant for the Company. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 392.0 Transportation Equipment (8 L3)

This account consists of gas transportation equipment. There is currently \$513 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$31 thousand. All 392 accounts were combined for this study. Based on historical analysis and judgment, this study recommends an 8 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 392.1 Transportation Equipment <12,000 LB (8 L3)

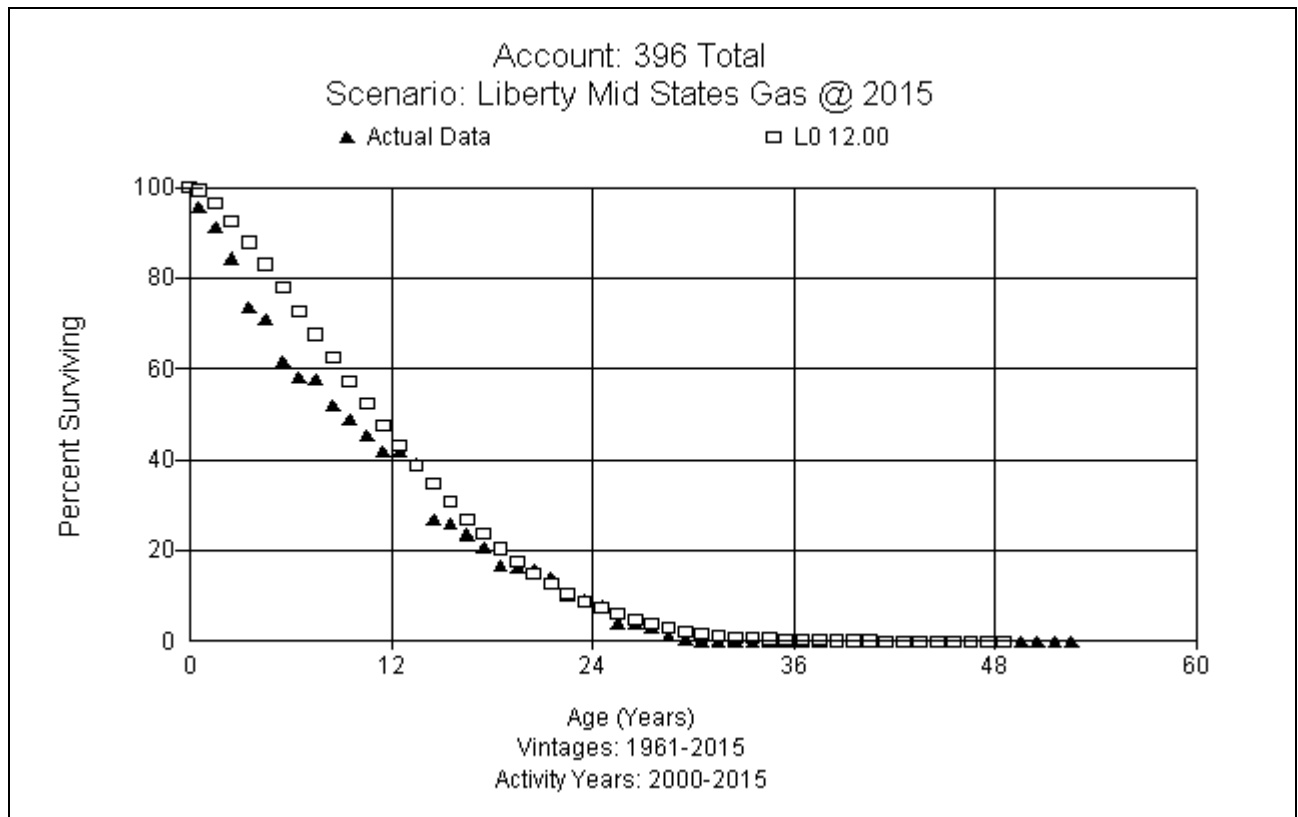
This account consists of transportation equipment weighing less than 12,000 pounds. There is currently \$4.2 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$633 thousand. This study recommends an 8 L3 curve for this account based on results for the combined 392 assets. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

FERC Account 396.0 Power Operated Equipment (12 L0)

This account consists of power operated equipment. There is currently \$1.1 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$75 thousand. All assets for the 396 accounts were combined for life analysis. Based on life analysis and judgment, this study recommends a 12 L0 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 396.1 Gen - Ditchers (12 L0)

This account consists of ditchers. There is currently no plant in Iowa and \$239 thousand in total plant for the Company. All assets for the 396 accounts were combined for life analysis. Based on life analysis and judgment, this study recommends a 12 L0 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.



FERC Account 396.2 Gen - Backhoes (12 L0)

This account consists of backhoes. There is currently no plant in Iowa and \$380 thousand in total plant for the Company. This study recommends a 12 L0 curve for this account based on the combined 396 analysis. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 396.3 Gen - Welders (12 L0)

This account consists of welders. There is currently no plant in Iowa and \$12 thousand in total plant for the Company. This study recommends a 12 L0 curve for this account based on the combined 396 analysis. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

GENERAL PLANT AMORTIZED ACCOUNTS

Adoption of Vintage Group Amortization

This study recommends the adoption of vintage group amortization for certain General plant accounts. FERC adopted Accounting Release 15 in 1997 using the following criteria:

1. the individual classes of assets for which vintage year accounting is followed are high volume, low value items;
2. there is no change in existing retirement unit designations, for purposes of determining when expenditures are capital or expense;
3. the cost of the vintage groups is amortized to depreciation expense over their useful lives and there is no change in depreciation rates resulting from the adoption of the vintage year accounting;
4. interim retirements are not recognized;
5. salvage and removal cost relative to items in the vintage categories are included in the accumulated depreciation account and assigned to the oldest vintage first; and
6. properties are retired from the affected accounts that, at the date of the adoption of vintage year accounting, meet or exceed the average service life of properties in that account.

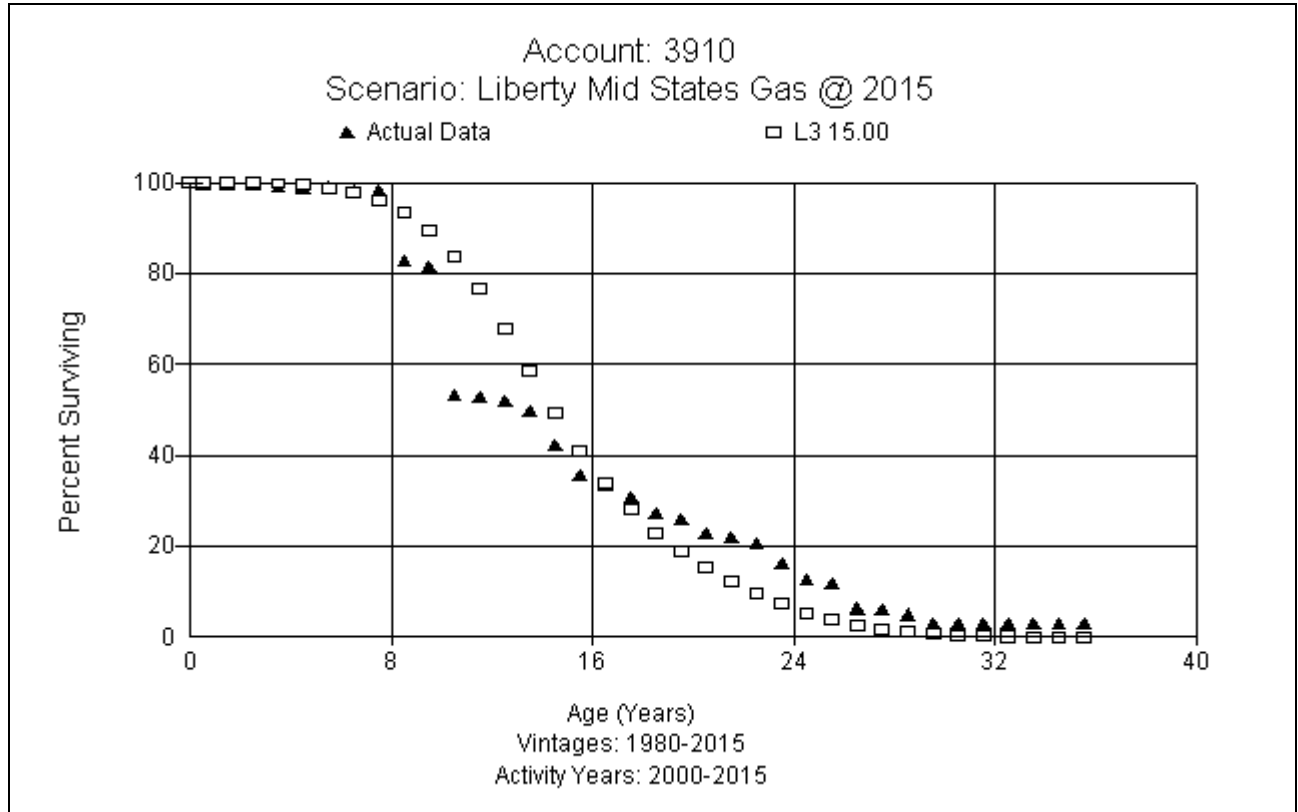
A vintage year method of accounting for the general plant accounts that meets all of the foregoing requirements may be implemented without obtaining specific authorization from the Commission to do so.

To implement this amortization mechanism, it is necessary to first retire the assets whose age is longer than the recommended service life for each group. It will no longer be necessary to track of the location and retirement of those assets. Those amounts are shown for each account in Appendix A-1. After those assets are retired, the remaining plant in service for each account will be amortized using the amortization rates shown in Appendix A-1 and B. Annually, assets which reach the average service life of each account will be retired when the assets reach their average service life. In addition, an additional accrual is necessary for each plant

account to make up the difference between the book depreciation reserve and the theoretical depreciation reserve. Those amounts will be accrued until the total reserve difference for each account shown in Appendix A-1. For example in Iowa, Account 391 will require an annual accrual of \$5,636.52 annually for 8.78 years until the reserve difference of \$49,480.58 has been accumulated. At that point the additional annual accrual will cease.

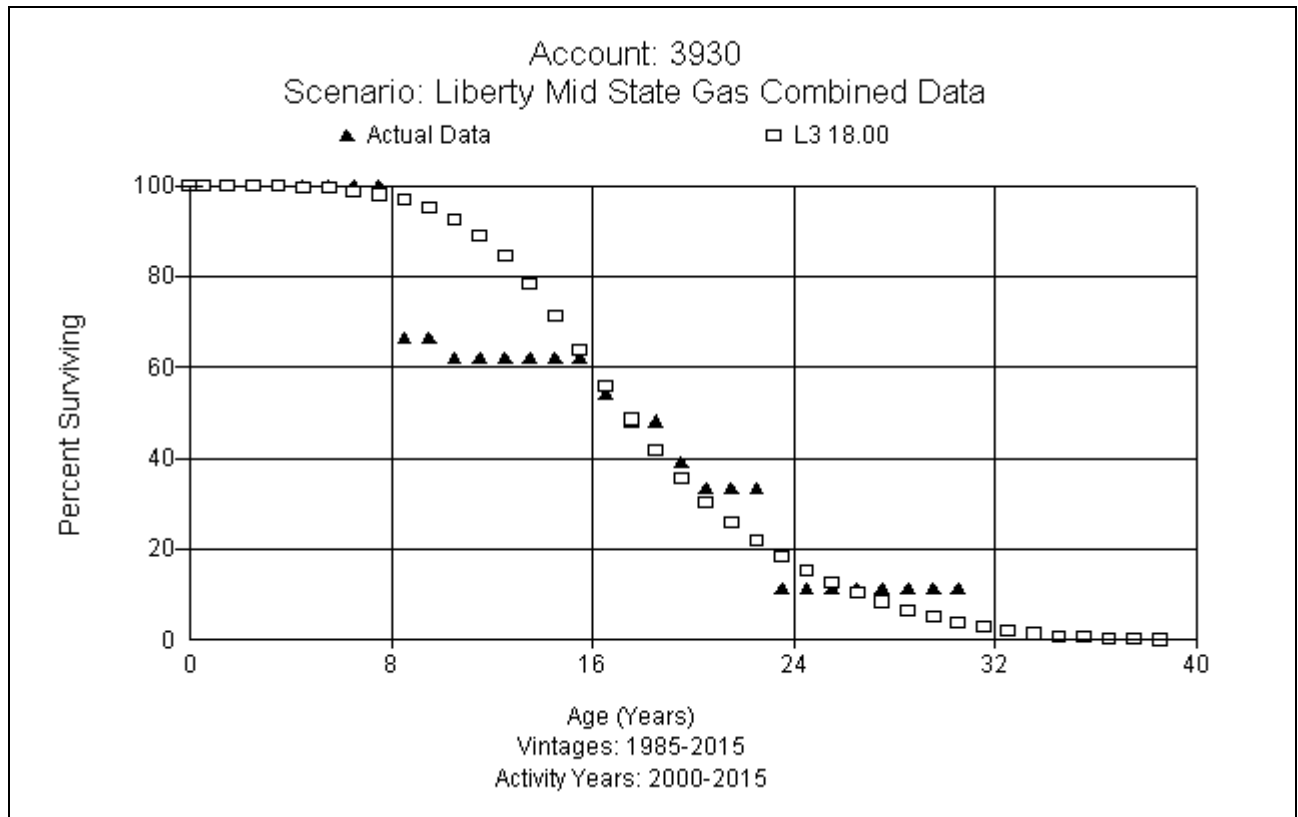
FERC Account 391.0 Office Furniture & Equipment (15 L3)

This account consists of general office furniture and equipment. There is currently \$1.3 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$334 thousand. This study recommends a 15 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



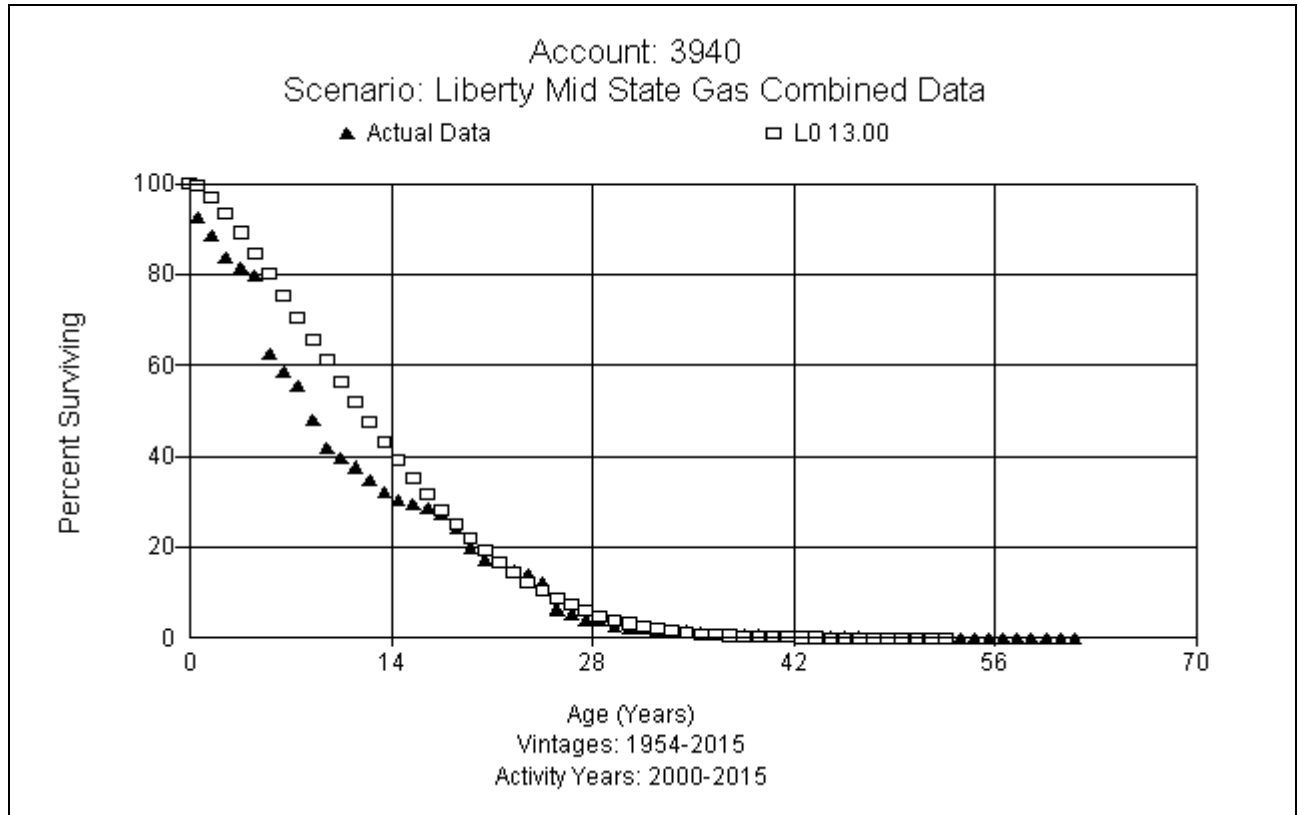
FERC Account 393.0 Stores Equipment (18 L3)

This account consists of gas transportation equipment. There is currently no plant in Iowa and \$25 thousand in total plant for the Company. This study recommends an 18 L3 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.



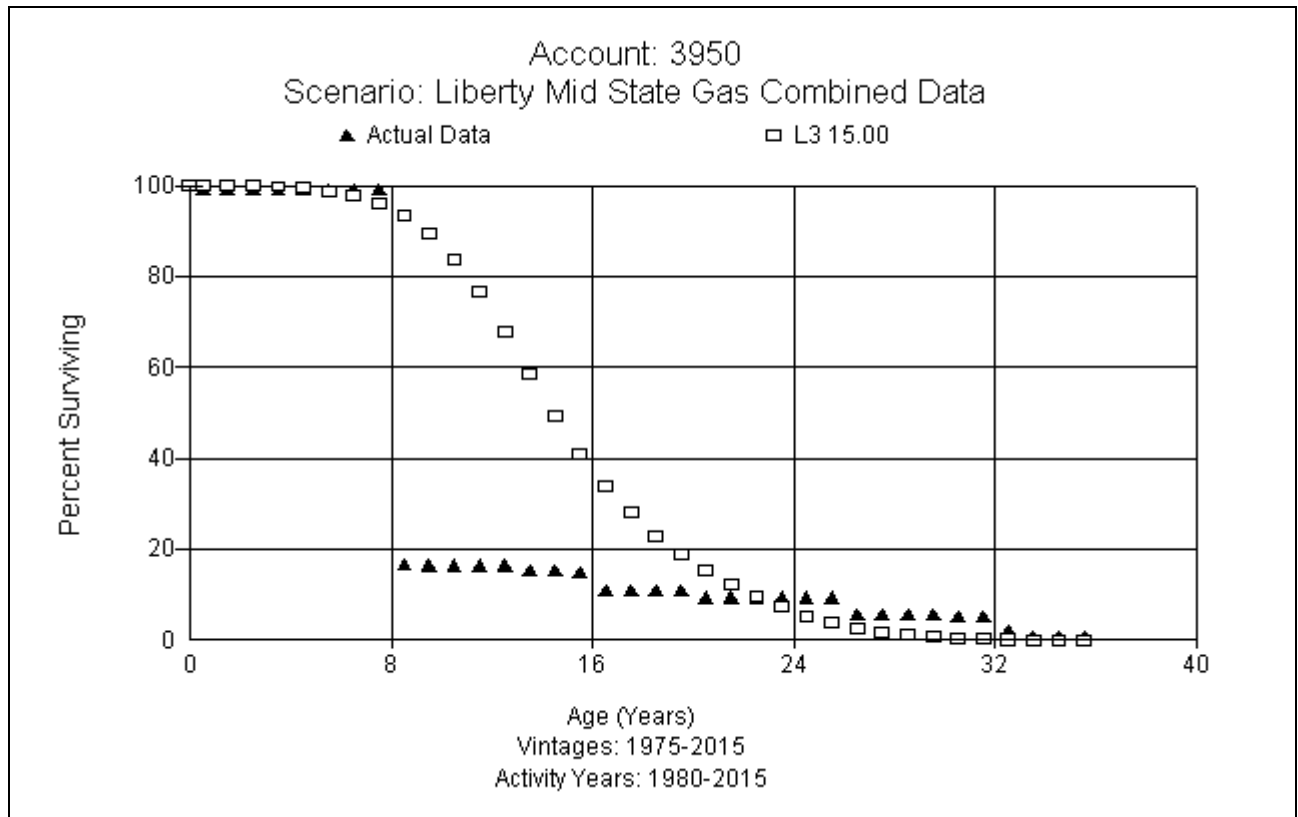
FERC Account 394.0 Tools, Shop, & Garage Equipment (13 L0)

This account consists of various tools and shop equipment. There is currently \$2 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$23 thousand. This study recommends a 13 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



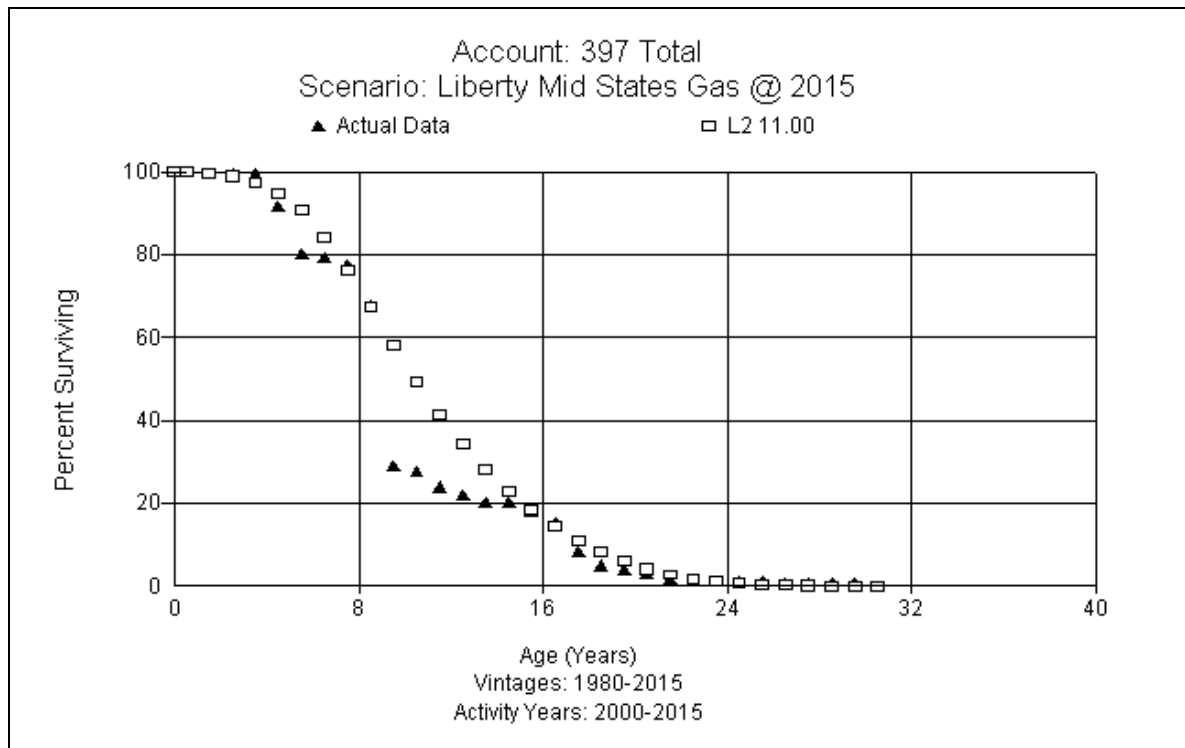
FERC Account 395.0 Laboratory Equipment (15 L3)

This account consists of laboratory equipment. There is currently no plant in Iowa and \$2 thousand in total plant for the Company. This study recommends a 15 L3 curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.



FERC Account 397.0 Communications Equipment (11 L2)

This account consists of general plant communications equipment. There is currently \$96 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$10 thousand. All 397 accounts were combined to analyze this account. This study recommends an 11 L2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 397.1 General Comm Eq Mob Radios (11 L2)

This account consists of general plant communications equipment – mobile radios. There is currently no plant in Iowa and \$170 in total plant for the Company. This study recommends an 11 L2 curve for this account based on the combined 397 results. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 397.2 General Comm Eq Fixed Radios (11 L2)

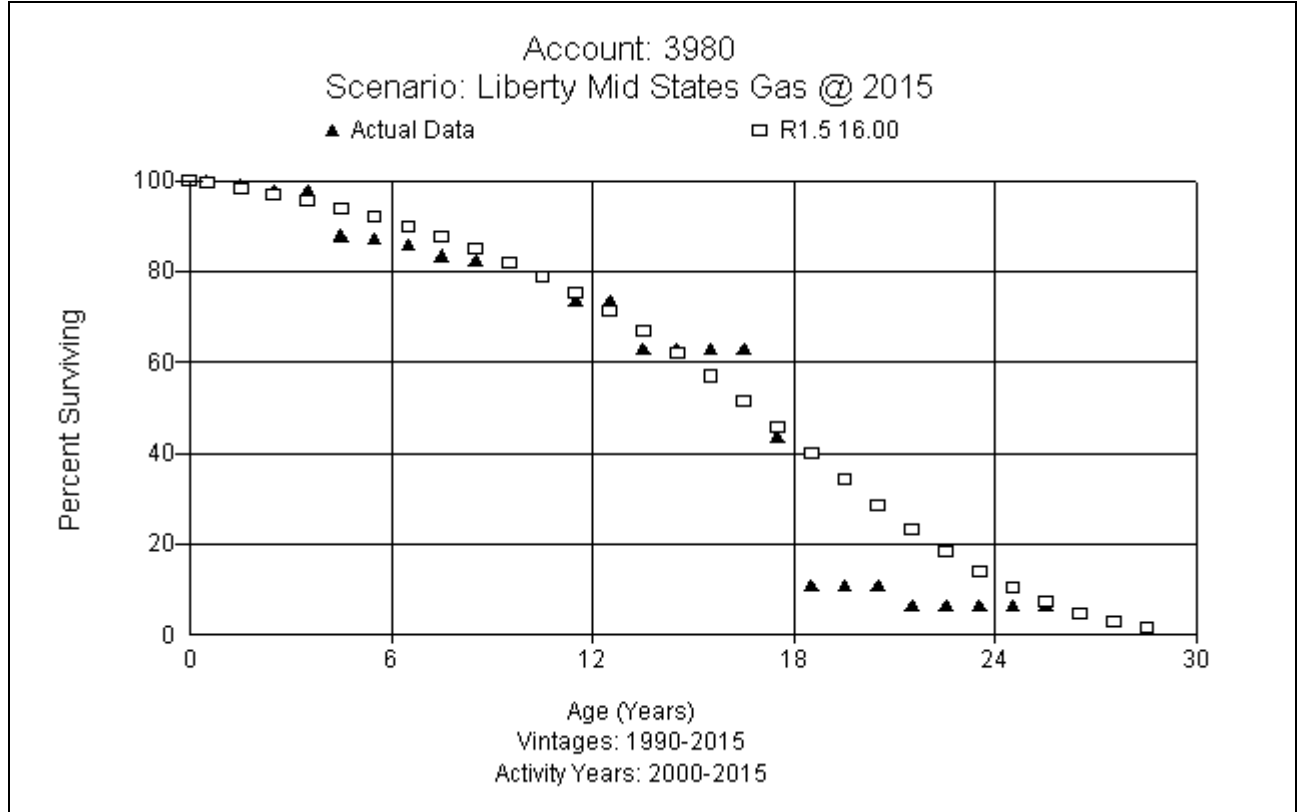
This account consists of general plant communications equipment – fixed radios. There is currently no plant in Iowa and \$14 thousand in total plant for the Company. This study recommends an 11 L2 curve for this account based on the combined 397 results. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 397.3 General Comm Eq Telemetry (11 L2)

This account consists of general plant communications equipment – telemetry. There is currently no plant in Iowa and \$4 thousand in total plant for the Company. This study recommends an 11 L2 curve for this account based on combined 397 results. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets.

FERC Account 398 Miscellaneous Equipment (16 R1.5)

This account consists of miscellaneous general plant equipment. There is currently \$1.5 million in total plant for the Company. Of that amount, the plant balance in Iowa is \$87 thousand. This study recommends a 16 R1.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 399.3 Other-Oth Tang Prop – Network – H/W (7 SQ)

This account consists of other tangible property such as networking hardware. There is currently no plant in Iowa and \$4 thousand in total plant for the Company. Based on judgment, this study recommends a 7 SQ curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is shown.

FERC Account 399.4 Other-Oth Tang Prop – PC Hardware (7 SQ)

This account consists of other tangible property such as PC hardware. There is currently \$86 thousand in total plant for the Company. Of that amount, the plant balance in Iowa is \$33. Based on judgment and the recommendation for account 399.3, this study recommends a 7 SQ curve for this account. No graph is shown.

FERC Account 399.5 Other-Oth Tang Prop – PC Software (5 SQ)

This account consists of other tangible property such as networking hardware. There is currently no plant in Iowa and \$31 thousand in total plant for the Company. Based on judgement, this study recommends a 5 SQ curve for this account. If any assets are added to this account in Iowa, we recommend the adoption of the proposed parameter for those assets. No graph is shown.

NET SALVAGE ANALYSIS

When a capital asset is retired, physically removed from service, and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset).

Gross salvage and cost of removal related to retirements are recorded to the general ledger in the accumulated provision for depreciation at the time retirements occur within the system.

Removal cost percentages are calculated by dividing the current cost of removal by the original installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the timing of the addition versus the retirement. For example, a distribution asset in FERC Account 376 with a current installed cost of \$500 (2015) would have had an installed cost of \$50³ in 1962 (which is the average life of the account). A removal cost of \$50 for the asset calculated (incorrectly) on current installed cost would only have a negative 10 percent removal cost (\$50/\$500). However, a correct removal cost calculation would show a negative 100 percent removal cost for that asset (\$50/\$50). Inflation from the time of installation of the asset until the time of its removal must be taken into account in the calculation of the removal cost percentage because the depreciation rate, which includes the removal cost percentage, will be applied to the original installed cost of assets.

Since Liberty acquired these assets from Atmos, they have maintained net salvage data in their records from 2013-2015. No data was available for years 2011 and 2012 during Atmos' ownership. Alliance Consulting and Liberty diligently attempted to obtain such information but it was not provided to either group. For 2005-2010, historic net salvage was available from two states- Illinois and Missouri. Again, we attempted to obtain net salvage for Iowa for 2005-2010 but we did not receive any information. To compile net salvage history, Illinois and Missouri were

combined in 2005-2010, and all three states were combined in 2013-2015. Those results are shown in Appendix D. Thus, removal cost in 2005-2010 may be understated since the information from Iowa is not included.

3 Using the Handy-Whitman Bulletin No. 165, E-4, line 45, \$55 = \$500 x 54/ 537,

Gas Transmission Accounts, FERC Accounts 366.0-370.0

FERC Account 366.0 Structures and Improvements (-5% net salvage)

This account consists of any gross salvage and removal cost associated with buildings and other related structures and improvements related to transmission operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is a small amount of removal cost in removing structures and improvements. To model net salvage in the future, this study recommends negative five percent net salvage for this account.

FERC Account 366.1 Other Structures (-5% net salvage)

This account consists of any gross salvage and removal cost associated with primarily structures and assets related to control of the transmission system. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is a small amount of removal cost in removing structures and improvements. To model net salvage in the future, this study recommends negative five percent net salvage for this account.

FERC Account 367.0 Transmission Mains Cathodic Protection (0% net salvage)

This account consists of any gross salvage and removal cost associated with transmission mains such as anodes, ground beds, and rectifiers. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 367.1 Transmission Mains Steel (-20% net salvage)

This account consists of any gross salvage and removal cost associated with steel transmission mains and related assets. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been limited retirement or net salvage activity over the study period. Generally there is some removal cost in removing mains. To model net salvage in the future, this study recommends negative 20 percent net salvage for this account.

FERC Account 367.2 Transmission Mains Plastic (see Acct 367.1)

This account consists of any gross salvage and removal cost associated with plastic transmission mains and related assets. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is some removal cost in removing mains. All existing plant in this account will be transferred to account 367.1 and no future plant assets will be booked in this account.

FERC Account 369.0 M & R Station Equipment (-10% net salvage)

This account consists of any gross salvage and removal cost associated with transmission metering and regulating station equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been limited retirement or net salvage activity over the study period. Generally there is some removal cost in station equipment. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account.

FERC Account 370.0 Communication Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with microwave and radio communication equipment and related assets. The approved

net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

Gas Distribution Accounts, FERC Accounts 374.2- 387.0

FERC Account 374.2 Distribution Land Rights (0% net salvage)

This account consists of any gross salvage and removal cost associated with land rights associated with distribution operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is no removal cost associate with land rights. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 375.0 Structures and Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with structures and controls related to distribution operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is no removal cost associate with structures and improvements. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 376.0 Distribution Mains Cathodic Protection (0% net salvage)

This account consists of any gross salvage and removal cost associated with cathodic protection equipment for distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Removal cost has been charged to this account over many years. Generally there is little removal cost associated with cathodic protection equipment. To model net salvage in the future, this study recommends zero percent net salvage for this account

FERC Account 376.1 Distribution Mains Steel (-20% net salvage)

This account consists of any gross salvage and removal cost associated with steel distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 19 and 21 percent net salvage for the six through eight year moving averages in 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative 20 percent net salvage for this account

FERC Account 376.2 Distribution Mains Plastic (-5% net salvage)

This account consists of any gross salvage and removal cost associated with plastic distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 4 and 5 percent net salvage for the seven through nine year moving averages in 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative five percent net salvage for this account

FERC Account 378.0 M & R Station Equipment – General (-10% net salvage)

This account consists of any gross salvage and removal cost associated with M&R station piping, regulators, controls, odorizers and other equipment used in distribution measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is negative 13 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account

FERC Account 379.0 M & R Station Equipment – City Gate (-10% net salvage)

This account consists of any gross salvage and removal cost associated with M&R station piping, regulators, controls, odorizers and other equipment used in city

gate distribution measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is negative 30 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account, which is the same recommendation for account 378.0.

FERC Account 380.0 Services (-50% net salvage)

This account consists of any gross salvage and removal cost associated with assets related to distribution services. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 56 and 29 percent net salvage for 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative 50 percent net salvage for this account

FERC Account 381.0 Meters (-35% net salvage)

This account consists of any gross salvage and removal cost associated with electromechanical distribution meters. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is varies between negative 20 and negative 54 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 35 percent net salvage for this account

FERC Account 382.0 Meter Installations (-35% net salvage)

This account consists of any gross salvage and removal cost associated with equipment and installation costs related to meter installations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account varies between negative 58 percent net salvage to negative 501 percent as shown in Appendix D. To model net salvage in the future, this study recommends negative 35

percent net salvage for this account

FERC Account 383.0 House Regulators (0% net salvage)

This account consists of any gross salvage and removal cost associated with house regulators. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Generally there is little or no removal cost associated with house regulators. To model net salvage in the future, this study recommends zero percent net salvage for this account

FERC Account 384.0 House Regulators Installations (0% net salvage)

This account consists of any gross salvage and removal cost associated with house regulator installations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account

FERC Account 385.0 Industrial M&R Station Equip (-10% net salvage)

This account consists of any gross salvage and removal cost associated with industrial measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Generally there is a small amount of removal cost associated with these assets. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account

FERC Account 387.0 Other Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with other distribution equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To

model net salvage in the future, this study recommends zero percent net salvage for this account.

Gas General Accounts, FERC Accounts 390.0-399.5

FERC Account 390.0 General Structures & Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with general office structures. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.1 General Structure Frame (0% net salvage)

This account consists of any gross salvage and removal cost associated with structure frames. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.2 General Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with general improvements. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.3 General Improvements Leased Premise (0% net salvage)

This account consists of any gross salvage and removal cost associated with general improvements on leased property. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net

salvage for this account.

FERC Account 391.0 Office Furniture & Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with general office furniture and equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 392.0 Transportation Equipment (6% net salvage)

This account consists of any gross salvage and removal cost associated with transportation equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is six percent net salvage for the eight and nine year bands, as shown in Appendix D. To model net salvage in the future, this study recommends six percent net salvage for this account.

FERC Account 392.1 Transportation Equipment <12,000 LB (6% net salvage)

This account consists of any gross salvage and removal cost associated with transportation equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends six percent net salvage for this account. This is the same recommendation for account 392.0.

FERC Account 393.0 Stores Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with stores equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving

average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 394.0 Tools, Shop, & Garage Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with various tools and shop equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 395.0 Laboratory Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with laboratory equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 396.0 Power Operated Equipment (10% net salvage)

This account consists of any gross salvage and removal cost associated with power operated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is varies from eight percent positive net salvage to positive 64 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.1 General - Ditchers (10% net salvage)

This account consists of any gross salvage and removal cost associated with

general equipment like ditchers. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.2 General - Backhoes (10% net salvage)

This account consists of any gross salvage and removal cost associated with general equipment like backhoes. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.3 General - Welders (10% net salvage)

This account consists of any gross salvage and removal cost associated with general equipment like welders. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 397.0 Communication Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.1 General Communication Eq Mob Radios (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as mobile radios. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.2 General Communication Eq Fixed Radios (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as fixed radios. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.3 General Communication Eq Telemetry (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as telemetry. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 398.0 Miscellaneous Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with miscellaneous general plant equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent

net salvage for this account.

FERC Account 399.3 OTH Tang Prop – Network – H/W (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as network hardware. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 399.4 OTH Tang Prop – PC Hardware (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as PC hardware. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 399.5 OTH Tang Prop – PC Software (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as PC software. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

APPENDIX A

Proposed Depreciation Rates

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa

Computation of Proposed Depreciation Accrual Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance	Allocated Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Average Remaining Life	Annual Accrual Amount	Proposed Annual Accrual Rate
Transmission									
3661	T&D-Other Structures	41,921.15	8,457.37	-5.00%	(2,096.06)	35,559.84	40.39	880.52	2.10%
3671	T&D-Mains-STL	1,168,921.73	527,340.18	-20.00%	(233,784.35)	875,365.90	43.66	20,048.66	1.72%
3690	T&D-M&R Station Equipment	208,239.93	101,891.40	-10.00%	(20,823.99)	127,172.52	22.19	5,730.40	2.75%
Distribution									
3742	T&D-Land Rights	24,870.98	18,891.08	0.00%	0.00	5,979.90	36.35	164.50	0.66%
3750	Structures and Improvements	3,488.11	3,184.81	0.00%	0.00	303.30	16.68	18.18	0.52%
3760	Mains	126,721.01	109,741.00	0.00%	0.00	16,980.01	5.42	3,135.56	2.47%
3761	T&D-Mains-STL	1,418,273.96	970,907.73	-20.00%	(283,654.79)	731,021.03	40.54	18,033.25	1.27%
3762	T&D-Mains-PLST	2,509,938.81	1,353,169.24	-5.00%	(125,496.92)	1,282,265.98	44.45	28,849.36	1.15%
3780	Measuring & regulating stn eqt-General	154,732.68	130,330.13	-10.00%	(15,473.27)	39,875.81	16.34	2,440.24	1.58%
3790	Measuring & regulating stn eqt-City gate check stn	357,264.11	264,324.63	-10.00%	(35,726.41)	128,665.89	24.82	5,183.49	1.45%
3800	Services	3,843,431.76	3,205,301.24	-50.00%	(1,921,715.88)	2,559,846.40	21.69	117,999.68	3.07%
3810	Meters	1,544,209.17	1,838,849.66	-35.00%	(540,473.21)	245,832.72	1.90	129,461.49	8.38%
3820	Meters Installations	1,686,111.36	959,506.98	-35.00%	(590,138.98)	1,316,743.36	19.99	65,874.07	3.91%
3830	House regulators	133,478.93	85,477.90	0.00%	0.00	48,001.03	16.18	2,966.83	2.22%
3850	Industrial measuring & regulating stn eqt	2,210.25	1,428.30	-10.00%	(221.03)	1,002.98	28.04	35.77	1.62%
3870	Other Equipment	* 54,383.59	54,383.59	0.00%	0.00	0.00	1.49	0.00	0.00%

* Account 387- Other Equipment. When invested is added to the account, we recommend a 10% accrual rate based on proposed life and net salvage parameters.

General Depreciated

3900	General Structures & Improvmnt	\$81,338.63	17,967.96	0.00%	0.00	63,370.67	21.66	2,925.04	3.60%
3902	GEN-Improvements	\$16,670.44	2,699.59	0.00%	0.00	13,970.85	24.69	565.84	3.39%
3920	Transportation Equipment	\$30,987.88	6,776.98	6.00%	1,859.27	22,351.63	5.11	4,377.63	14.13%
3921	Transportation Equip<12,000 LB	\$633,298.54	52,781.58	6.00%	37,997.91	542,519.05	6.90	78,659.32	12.42%
3960	Power Operated Equipment	\$75,490.10	3,788.80	10.00%	7,549.01	64,152.29	10.96	5,853.60	7.75%

Filed with the Iowa Utilities Board on July 25, 2016. RPU-2016-0003

APPENDIX A-1
Proposed Depreciation Rates-Amortized General Plant

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa

Computation of Proposed Depreciation Amortization Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance 09/30/2015	Allocated Reserve 09/30/2015	Theoretical Reserve 09/30/2015	Reserve Difference	Remaining Life	Assets to Ret > ASL
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
3910	Office Furniture & Improvement	334,278.66	89,165.50	138,646.08	(49,480.58)	8.78	0.00
3940	Tools, Shop, and Garage Equipment	22,825.98	10,400.02	11,332.59	(932.57)	10.59	8,719.50
3970	Communications Equipment	10,225.11	9,152.15	9,236.59	(84.44)	8.88	9,000.00
3980	Misc. Equipment	87,349.97	18,430.72	28,638.47	(10,227.75)	10.75	0.00
3994	OTH-Oth Tang Prop - PC Hardware	32.96	4.54	7.06	(2.52)	5.50	0.00

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After Retirement of Fully Accrued Assets

Account	Description	Balance 09/30/2015	Allocated Reserve 09/30/2015	Proposed Life	Annual Amortization	Accrual For Reserve Deficiency	Proposed Annual Accrual Rate
(a)	(b)	(c)	(d)	(e)	(f)= (c)/(e)	(g)	(h)
3910	Office Furniture & Improvement	334,278.66	89,165.50	15	22,285.24	5,636.52	6.67%
3940	Tools, Shop, and Garage Equipment	14,106.48	1,680.52	13	1,085.11	88.05	7.69%
3970	Communications Equipment	1,225.11	152.15	11	111.37	9.51	9.09%
3980	Misc. Equipment	87,349.97	18,430.72	16	5,459.37	951.37	6.25%
3994	OTH-Oth Tang Prop - PC Hardware	32.96	4.54	7	4.71	0.46	14.29%

APPENDIX B
Comparison of Accrual Rates

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa

Comparison of Existing vs Proposed Depreciation Rates
Using Average Life Group Depreciation
As of September 30, 2015

Acct	Description	Plant at 9/30/15	Current Rate	Annual Expense	Proposed Rate	Proposed Expense	Expense Change
3010	Intangible Plant-Organization	3,542.04	0.00%	0.00		0.00	0.00
3020	Intangible Plant-Franchise/Consents	0.00	0.00%	0.00		0.00	0.00
3030	Misc. Intangible Plant	37,094.72	20.00%	7,418.94		0.00	(7,418.94)
3650	Land - Transmission	16,462.68		0.00		0.00	0.00
3651	Land & Land Rights	149,715.91		0.00		0.00	0.00
3660	T&D-Structures & Improvements	0.00		0.00		0.00	0.00
3661	T&D-Other Structures	41,921.15	1.89%	792.31	2.10%	880.52	88.21
3670	T&D-Mains-STL-PLST-CI-Mixed	0.00		0.00		0.00	0.00
3671	T&D-Mains-STL	1,168,921.73	0.55%	6,429.07	1.72%	20,048.66	13,619.59
3672	T&D-Mains-PLST	0.00		0.00		0.00	0.00
3690	T&D-M&R Station Equipment	208,239.93	4.32%	8,995.96	2.75%	5,730.40	(3,265.56)
3700	Communication Equipment	0.00		0.00		0.00	0.00
3740	Land and Land Rights	8,000.23		0.00		0.00	0.00
3741	T&D-Land	0.00		0.00		0.00	0.00
3742	T&D-Land Rights	24,870.98	0.00%	0.00	0.66%	164.50	164.50
3750	Structures and Improvements	3,488.11	0.00%	0.00	0.52%	18.18	18.18
3760	Mains	126,721.01	2.47%	3,130.01	2.47%	3,135.56	5.55
3761	T&D-Mains-STL	1,418,273.96	2.47%	35,031.37	1.27%	18,033.25	(16,998.12)
3762	T&D-Mains-PLST	2,509,938.31	2.47%	61,995.48	1.15%	28,849.36	(33,146.12)
3780	Measuring & regulating stn eqt-General	154,732.68	4.72%	7,303.38	1.58%	2,440.24	(4,863.15)
3790	Measuring & regulating stn eqt-City gate check stn	357,264.11	7.75%	27,687.97	1.45%	5,183.49	(22,504.48)
3800	Services	3,843,431.76	10.45%	401,638.62	3.07%	117,999.68	(283,638.93)
3810	Meters	1,544,209.17	3.09%	47,716.06	8.38%	129,461.49	81,745.42
3820	Meters Installations	1,686,111.36	6.01%	101,335.29	3.91%	65,874.07	(35,461.23)
3830	House regulators	133,478.93	4.33%	5,779.64	2.22%	2,966.83	(2,812.80)
3840	House Regulatory installations	0.00		0.00	0.00%	0.00	0.00
3850	Industrial measuring & regulating stn eqt	2,210.25	4.62%	102.11	1.62%	35.77	(66.34)
3870	Other Equipment *	54,383.59	5.78%	3,143.37	0.00%	0.00	(3,143.37)
3890	Land and Land Rights	9,736.70	0.00%	0.00	0.00%	0.00	0.00
3900	General Structures & Improvmnt	81,338.63	2.52%	2,049.73	3.60%	2,925.04	875.31
3901	GEN-Structure Frame	0.00		0.00		0.00	0.00
3902	GEN-Improvements	16,670.44	4.00%	666.82	3.39%	565.84	(100.98)
3903	GEN-Improvements Leased Premise	0.00		0.00		0.00	0.00
3910	Office Furniture & Improvement	334,278.66	5.32%	17,783.62	6.67%	22,285.24	4,501.62
3920	Transportation Equipment	30,987.88	16.00%	4,958.06	14.13%	4,377.63	(580.43)
3921	Transportation Equip<12,000 LB	633,298.54	16.00%	101,327.77	12.42%	78,659.32	(22,668.45)
3930	Stores Equipment	0.00		0.00		0.00	0.00
3940	Tools, Shop, and Garage Equipment	14,106.48	1.22%	172.10	7.69%	1,085.11	913.01
3950	Laboratory Equipment	0.00	0.00%	0.00		0.00	0.00
3960	Power Operated Equipment	75,490.10	3.29%	2,483.62	7.75%	5,853.60	3,369.98
3961	GEN- Ditchers	0.00	3.29%	0.00		0.00	0.00
3962	GEN-Backhoes	0.00	3.29%	0.00		0.00	0.00
3963	GEN- Welders	0.00	3.29%	0.00		0.00	0.00
3970	Communications Equipment	1,225.11	6.21%	76.08	9.09%	111.37	35.29
3971	GEN-Comm Eq. Mob Radios	0.00	6.21%	0.00		0.00	0.00
3972	GEN-Comm Eq. Fixed Radios	0.00	6.21%	0.00		0.00	0.00
3973	GEN-Comm Eq. Telemetering	0.00	6.21%	0.00		0.00	0.00
3980	Misc. Equipment	87,349.97	20.45%	17,863.07	6.25%	5,459.37	(12,403.70)
3993	OTH-Oth Tang Prop - Network - H/W	0.00	14.29%	0.00		0.00	0.00
3994	OTH-Oth Tang Prop - PC Hardware	32.96	14.29%	4.71	14.29%	4.71	(0.00)
3995	OTH-Oth Tang Prop - PC Software	0.00	14.29%	0.00		0.00	
Additional Accrual for Reserve Difference AR15						6,685.90	6,685.90
		14,777,528.08		865,885.17		528,835.15	(337,050.02)

* Account 387- Other Equipment. When investment is added to the account, we recommend a 10% accrual rate based on proposed life and net salvage parameters.

APPENDIX C
Depreciation Parameters

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
State of Iowa
PROPOSED DEPRECIATION PARAMETERS
BY ACCOUNT AT SEPTEMBER 30, 2015

Acct	Description	Average		
		Service Life	Iowa Curve	Net Salv Percentage
3010	Intangible Plant-Organization		Non-Depreciable	
3020	Intangible Plant-Franchise/Consents		Non-Depreciable	
3030	Misc. Intangible Plant		Non-Depreciable	
3650	Land - Transmission		Non-Depreciable	
3651	Land & Land Rights		Non-Depreciable	
3660	T&D-Structures & Improvements	50	S3	-5
3661	T&D-Other Structures	50	S3	-5
3670	T&D-Mains-STL-PLST-CI-Mixed	25	SQ	0
3671	T&D-Mains-STL	70	R2.5	-20
3672	T&D-Mains-PLST	N/A	N/A	N/A
3690	T&D-M&R Station Equipment	40	R2.5	-10
3700	Communication Equipment	25	S2.5	0
3740	Land and Land Rights		Non-Depreciable	
3741	T&D-Land		Non-Depreciable	
3742	T&D-Land Rights	70	R2.5	0
3750	Structures and Improvements	45	R2	0
3760	Mains	25	SQ	0
3761	T&D-Mains-STL	63	R1.5	-20
3762	T&D-Mains-PLST	65	R3	-5
3780	Measuring & regulating stn eqt-General	40	R4	-10
3790	Measuring & regulating stn eqt-City gate check stn	45	S2	-10
3800	Services	33	L0	-50
3810	Meters	10	SQ	-35
3820	Meters Installations	27	L0.5	-35
3830	House regulators	27	L0.5	0
3840	House Regulatory installations	27	L0.5	0
3850	Industrial measuring & regulating stn eqt	45	R3	-10
3870	Other Equipment	10	R2	0
3890	Land and Land Rights		Non-Depreciable	
3900	General Structures & Improvmnt	33	L05	
3901	GEN-Structure Frame	33	L05	
3902	GEN-Improvements	33	L05	
3903	GEN-Improvements Leased Premise	33	L05	0
3910	Office Furniture & Improvement	15	L3	0
3920	Transportation Equipment	8	L3	6
3921	Transportation Equip<12,000 LB	8	L3	6
3930	Stores Equipment	18	L3	0
3940	Tools, Shop, and Garage Equipment	13	L0	0
3950	Laboratory Equipment	15	L3	0
3960	Power Operated Equipment	12	L0	10
3961	GEN- Ditchers	12	L0	10
3962	GEN-Backhoes	12	L0	10
3963	GEN- Welders	12	L0	10
3970	Communications Equipment	11	L2	0
3971	GEN-Comm Eq. Mob Radios	11	L2	0
3972	GEN-Comm Eq. Fixed Radios	11	L2	0
3973	GEN-Comm Eq. Telemetry	11	L2	0
3980	Misc. Equipment	16	R1.5	0
3993	OTH-Oth Tang Prop - Network - H/W	7	SQ	0
3994	OTH-Oth Tang Prop - PC Hardware	7	SQ	0
3995	OTH-Oth Tang Prop - PC Software	5	SQ	0

APPENDIX D

Net Salvage Analysis

States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
Intangible Plant-Organization														
3010	2005	0.00	0.00	0.00	0.00	NA								
3010	2006	0.00	0.00	0.00	0.00	NA	NA							
3010	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3010	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3010	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3010	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3010	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3010	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3010	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Intangible Plant-Franchise/Consents														
3020	2005	0.00	0.00	0.00	0.00	NA								
3020	2006	0.00	0.00	0.00	0.00	NA	NA							
3020	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3020	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3020	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3020	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3020	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3020	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3020	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Misc. Intangible Plant														
3030	2005	0.00	0.00	0.00	0.00	NA								
3030	2006	0.00	0.00	0.00	0.00	NA	NA							
3030	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3030	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3030	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3030	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3030	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3030	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3030	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Land - Transmission														
3650	2005	0.00	0.00	0.00	0.00	NA								
3650	2006	0.00	0.00	0.00	0.00	NA	NA							
3650	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3650	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3650	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3650	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3650	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3650	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3650	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Land & Land Rights														
3651	2005	0.00	0.00	0.00	0.00	NA								
3651	2006	0.00	0.00	0.00	0.00	NA	NA							
3651	2007	0.00	0.00	0.00	0.00	NA	NA	NA						

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States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3651	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3651	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3651	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3651	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3651	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3651	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Structures & Improvements														
3660	2005	0.00	0.00	0.00	0.00	NA								
3660	2006	0.00	0.00	0.00	0.00	NA	NA							
3660	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3660	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3660	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3660	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3660	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3660	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3660	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Other Structures														
3661	2005	0.00	0.00	0.00	0.00	NA								
3661	2006	0.00	0.00	0.00	0.00	NA	NA							
3661	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3661	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3661	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3661	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3661	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3661	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3661	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Mains-STL-PLST-CI-Mixed														
3670	2005	0.00	0.00	0.00	0.00	NA								
3670	2006	0.00	0.00	0.00	0.00	NA	NA							
3670	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3670	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3670	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3670	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3670	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3670	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3670	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Mains-STL														
3671	2005	0.00	0.00	0.00	0.00	NA								
3671	2006	0.00	0.00	0.00	0.00	NA	NA							
3671	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3671	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3671	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3671	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3671	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3671	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	

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States of Iowa, Illinois, and Missouri
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 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3671	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Mains-PLST														
3672	2005	0.00	0.00	0.00	0.00	NA								
3672	2006	0.00	0.00	0.00	0.00	NA	NA							
3672	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3672	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3672	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3672	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3672	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3672	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3672	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-M&R Station Equipment														
3690	2005	0.00	0.00	0.00	0.00	NA								
3690	2006	0.00	0.00	0.00	0.00	NA	NA							
3690	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3690	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3690	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3690	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3690	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3690	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3690	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Communication Equipment														
3700	2005	0.00	0.00	0.00	0.00	NA								
3700	2006	0.00	0.00	0.00	0.00	NA	NA							
3700	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3700	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3700	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3700	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3700	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3700	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3700	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Land and Land Rights														
3740	2005	0.00	0.00	0.00	0.00	NA								
3740	2006	0.00	0.00	0.00	0.00	NA	NA							
3740	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3740	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3740	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3740	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3740	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3740	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3740	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Land														
3741	2005	0.00	0.00	0.00	0.00	NA								
3741	2006	0.00	0.00	0.00	0.00	NA	NA							

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States of Iowa, Illinois, and Missouri
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 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3741	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3741	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3741	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3741	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3741	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3741	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3741	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
T&D-Land Rights														
3742	2005	0.00	0.00	0.00	0.00	NA								
3742	2006	0.00	0.00	0.00	0.00	NA	NA							
3742	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3742	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3742	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3742	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3742	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3742	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3742	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Structures and Improvements														
3750	2005	0.00	0.00	0.00	0.00	NA								
3750	2006	0.00	0.00	0.00	0.00	NA								
3750	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3750	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3750	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3750	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3750	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3750	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3750	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mains														
3760	2005	0.00	0.00	64.00	(64.00)	NA								
3760	2006	1,755.22	0.00	390.00	(390.00)	-22.22%	-25.87%							
3760	2007	104.57	0.00	717.00	(717.00)	-685.67%	-59.52%	-62.96%						
3760	2008	1,513.20	0.00	239.00	(239.00)	-15.79%	-59.09%	-39.91%	-41.80%					
3760	2009	0.00	0.00	23.00	(23.00)	NA	-17.31%	-60.52%	-40.59%	-42.48%				
3760	2010	0.00	0.00	0.00	0.00	NA	NA	-17.31%	-60.52%	-40.59%	-42.48%			
3760	2013	561.61	0.00	2,306.41	(2,306.41)	-410.68%	-410.68%	-414.77%	-123.79%	-150.75%	-93.41%	-95.04%		
3760	2014	0.00	0.00	119.65	(119.65)	NA	-431.98%	-431.98%	-436.08%	-129.56%	-156.24%	-96.45%	-98.08%	
3760	2015	0.00	0.00	0.00	0.00	NA	NA	-431.98%	-431.98%	-436.08%	-129.56%	-156.24%	-96.45%	-98.08%
T&D-Mains-STL														
3761	2005	8,968.54	0.00	0.00	0.00	0.00%								
3761	2006	110,021.81	0.00	0.00	0.00	0.00%	0.00%							
3761	2007	67,925.44	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3761	2008	19,010.81	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3761	2009	33,660.71	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3761	2010	68,537.84	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3761	2013	17,113.89	0.00	23,398.13	(23,398.13)	-136.72%	-27.32%	-19.61%	-16.92%	-11.34%	-7.40%	-7.19%		
3761	2014	1,918.36	0.00	16,990.24	(16,990.24)	-885.66%	-212.21%	-46.12%	-33.32%	-28.80%	-19.40%	-12.69%	-12.35%	

Data for 2011 and 2012 by account was not available from records supplied by prior owner.

States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3761	2015	15,676.91	0.00	10,000.53	(10,000.53)	-63.79%	-153.40%	-145.17%	-48.80%	-36.81%	-32.32%	-22.51%	-15.09%	-14.70%
T&D-Mains-PLST														
3762	2005	883.90	0.00	0.00	0.00	0.00%								
3762	2006	10,402.19	0.00	0.00	0.00	0.00%	0.00%							
3762	2007	15,124.79	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3762	2008	25,723.51	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3762	2009	15,879.14	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3762	2010	5,288.70	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3762	2013	204,713.74	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3762	2014	1,077.45	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3762	2015	54,996.93	0.00	911.11	(911.11)	-1.66%	-1.62%	-0.35%	-0.34%	-0.32%	-0.30%	-0.28%	-0.27%	-0.27%
Measuring & regulating stn eqt-General														
3780	2005	0.00	0.00	0.00	0.00	NA								
3780	2006	0.00	0.00	(6,178.00)	6,178.00	NA	NA							
3780	2007	1,927.98	0.00	10,637.00	(10,637.00)	-551.72%	-231.28%	-231.28%						
3780	2008	0.00	0.00	(3.00)	3.00	NA	-551.56%	-231.12%	-231.12%					
3780	2009	21,813.03	0.00	0.00	0.00	0.00%	0.01%	-44.79%	-18.77%	-18.77%				
3780	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.01%	-44.79%	-18.77%	-18.77%			
3780	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.01%	-44.79%	-18.77%	-18.77%		
3780	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.01%	-44.79%	-18.77%	-18.77%	-18.77%	
3780	2015	7,695.20	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	-33.83%	-14.17%	-14.17%
Measuring & regulating stn eqt-City gate check stn														
3790	2005	0.00	0.00	0.00	0.00	NA								
3790	2006	0.00	0.00	0.00	0.00	NA	NA							
3790	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3790	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3790	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3790	2010	1,964.02	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3790	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3790	2014	0.00	0.00	331.68	(331.68)	NA	NA	-16.89%	-16.89%	-16.89%	-16.89%	-16.89%	-16.89%	
3790	2015	98.27	0.00	0.00	0.00	0.00%	-337.52%	-337.52%	-16.08%	-16.08%	-16.08%	-16.08%	-16.08%	-16.08%
Services														
3800	2005	132,785.42	4,911.00	26,226.00	(21,315.00)	-16.05%								
3800	2006	127,512.57	0.00	73,853.00	(73,853.00)	-57.92%	-36.56%							
3800	2007	119,202.02	0.00	(16,956.00)	16,956.00	14.22%	-23.06%	-20.61%						
3800	2008	121,990.70	4.00	354,619.00	(354,615.00)	-290.69%	-140.00%	-111.61%	-86.31%					
3800	2009	88,885.22	0.00	32,849.00	(32,849.00)	-36.96%	-183.74%	-112.25%	-97.11%	-78.88%				
3800	2010	180,788.06	0.00	126,739.00	(126,739.00)	-70.10%	-59.18%	-131.29%	-97.33%	-89.46%	-76.82%			
3800	2013	88,624.98	0.00	52,559.27	(52,559.27)	-59.31%	-66.55%	-59.21%	-118.00%	-91.71%	-85.78%	-75.02%		
3800	2014	44,212.05	0.00	63,772.55	(63,772.55)	-144.24%	-87.57%	-77.50%	-68.55%	-120.22%	-95.32%	-89.14%	-78.40%	
3800	2015	117,375.31	0.00	70,894.83	(70,894.83)	-60.40%	-83.34%	-74.83%	-72.85%	-66.71%	-109.28%	-89.93%	-85.34%	-76.33%
Meters														
3810	2005	0.00	0.00	3,194.00	(3,194.00)	NA								
3810	2006	42,751.55	0.00	14,636.00	(14,636.00)	-34.24%	-41.71%							

Data for 2011 and 2012 by account was not available from records supplied by prior owner.

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3810	2007	39,177.46	0.00	32,044.00	(32,044.00)	-81.79%	-56.98%	-60.87%						
3810	2008	63,367.79	0.00	30,175.00	(30,175.00)	-47.62%	-60.67%	-52.90%	-55.09%					
3810	2009	89,035.12	0.00	12,754.00	(12,754.00)	-14.32%	-28.17%	-39.13%	-38.24%	-39.60%				
3810	2010	182,582.92	0.00	59,355.00	(59,355.00)	-32.51%	-26.55%	-30.53%	-35.90%	-35.73%	-36.50%			
3810	2013	401,831.70	0.00	38,460.24	(38,460.24)	-9.57%	-16.74%	-16.42%	-19.10%	-22.27%	-22.89%	-23.28%		
3810	2014	401,831.70	0.00	46,312.04	(46,312.04)	-11.53%	-10.55%	-14.61%	-14.59%	-16.43%	-18.60%	-19.15%	-19.41%	
3810	2015	401,831.70	0.00	86,412.17	(86,412.17)	-21.50%	-16.51%	-14.20%	-16.61%	-16.47%	-17.75%	-19.34%	-19.73%	-19.93%
Meters Installations														
3820	2005	213,349.20	0.00	25,281.00	(25,281.00)	-11.85%								
3820	2006	433,524.31	0.00	141,957.00	(141,957.00)	-32.74%	-25.85%							
3820	2007	178,400.28	0.00	(38,904.00)	38,904.00	21.81%	-16.84%	-15.55%						
3820	2008	278,432.91	0.00	198,573.00	(198,573.00)	-71.32%	-34.95%	-33.88%	-29.62%					
3820	2009	103,259.96	0.00	66,292.00	(66,292.00)	-64.20%	-69.39%	-40.34%	-37.03%	-32.58%				
3820	2010	35,846.28	0.00	159,933.00	(159,933.00)	-446.16%	-162.63%	-101.74%	-64.75%	-51.27%	-44.51%			
3820	2013	0.00	0.00	0.00	0.00	NA	-446.16%	-162.63%	-101.74%	-64.75%	-51.27%	-44.51%		
3820	2014	0.00	0.00	0.00	0.00	NA	NA	-446.16%	-162.63%	-101.74%	-64.75%	-51.27%	-44.51%	
3820	2015	0.00	0.00	0.00	0.00	NA	NA	NA	-446.16%	-162.63%	-101.74%	-64.75%	-51.27%	-44.51%
House regulators														
3830	2005	0.00	0.00	0.00	0.00	NA								
3830	2006	0.00	0.00	0.00	0.00	NA								
3830	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3830	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3830	2009	12,045.30	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3830	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3830	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3830	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3830	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
House Regulatory installations														
3840	2005	0.00	0.00	0.00	0.00	NA								
3840	2006	0.00	0.00	0.00	0.00	NA	NA							
3840	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3840	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3840	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3840	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3840	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3840	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3840	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Industrial measuring & regulating strn eqt														
3850	2005	0.00	0.00	0.00	0.00	NA								
3850	2006	0.00	0.00	0.00	0.00	NA	NA							
3850	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3850	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3850	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3850	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3850	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		

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3850	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3850	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other Equipment														
3870	2005	0.00	0.00	0.00	0.00	NA								
3870	2006	0.00	0.00	0.00	0.00	NA	NA							
3870	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3870	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3870	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3870	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3870	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3870	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3870	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Land and Land Rights														
3890	2005	0.00	0.00	0.00	0.00	NA								
3890	2006	0.00	0.00	0.00	0.00	NA	NA							
3890	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3890	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3890	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3890	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3890	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3890	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3890	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Structures & Improvmnt														
3900	2005	0.00	0.00	0.00	0.00	NA								
3900	2006	0.00	0.00	0.00	0.00	NA	NA							
3900	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3900	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3900	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3900	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3900	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3900	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3900	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
GEN-Structure Frame														
3901	2005	0.00	0.00	0.00	0.00	NA								
3901	2006	0.00	0.00	0.00	0.00	NA	NA							
3901	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3901	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3901	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3901	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3901	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3901	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3901	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
GEN-Improvements														
3902	2005	0.00	0.00	0.00	0.00	NA								

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3902	2006	0.00	0.00	0.00	0.00	NA	NA							
3902	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3902	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3902	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3902	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3902	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3902	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3902	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
GEN-Improvements Leased Premise														
3903	2005	0.00	0.00	0.00	0.00	NA								
3903	2006	0.00	0.00	0.00	0.00	NA	NA							
3903	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3903	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3903	2009	5,539.85	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3903	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3903	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3903	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3903	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
Office Furniture & Improvement														
3910	2005	0.00	0.00	0.00	0.00	NA								
3910	2006	25,627.59	0.00	0.00	0.00	0.00%	0.00%							
3910	2007	2,593.73	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3910	2008	19,399.88	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3910	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3910	2010	1,536.87	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3910	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3910	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3910	2015	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Transportation Equipment														
3920	2005	0.00	0.00	(399.00)	399.00	NA								
3920	2006	166,720.74	1,440.00	(563.00)	2,003.00	1.20%	1.44%							
3920	2007	32,791.00	13,121.00	(5,130.00)	18,251.00	55.66%	10.15%	10.35%						
3920	2008	0.00	0.00	301.00	(301.00)	NA	54.74%	10.00%	10.20%					
3920	2009	0.00	0.00	0.00	0.00	NA	NA	54.74%	10.00%	10.20%				
3920	2010	0.00	0.00	0.00	0.00	NA	NA	NA	54.74%	10.00%	10.20%			
3920	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	54.74%	10.00%	10.20%		
3920	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	54.74%	10.00%	10.20%	
3920	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	54.74%	10.00%	10.20%
Transportation Equip<12,000 LB														
3921	2005	0.00	0.00	0.00	0.00	NA								
3921	2006	0.00	0.00	0.00	0.00	NA	NA							
3921	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3921	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3921	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3921	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			

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3921	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3921	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3921	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Stores Equipment														
3930	2005	0.00	0.00	0.00	0.00	NA								
3930	2006	4,721.05	0.00	0.00	0.00	0.00%	0.00%							
3930	2007	1,419.09	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3930	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3930	2009	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%				
3930	2010	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%			
3930	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%		
3930	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	
3930	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
Tools, Shop, and Garage Equipment														
3940	2005	0.00	0.00	0.00	0.00	NA								
3940	2006	90,615.95	0.00	0.00	0.00	0.00%	0.00%							
3940	2007	84,080.29	0.00	0.00	0.00	0.00%		0.00%						
3940	2008	14,928.78	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3940	2009	7,982.65	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3940	2010	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%			
3940	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3940	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3940	2015	3,774.98	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Laboratory Equipment														
3950	2005	0.00	0.00	0.00	0.00	NA								
3950	2006	0.00	0.00	0.00	0.00	NA	NA							
3950	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3950	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3950	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3950	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3950	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3950	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3950	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Power Operated Equipment														
3960	2005	0.00	0.00	0.00	0.00	NA								
3960	2006	11,917.11	0.00	0.00	0.00	0.00%	0.00%							
3960	2007	28,889.36	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3960	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3960	2009	517.45	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3960	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3960	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3960	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3960	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%

GEN- Ditchers

States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3961	2005	0.00	0.00	0.00	0.00	NA								
3961	2006	892.51	0.00	0.00	0.00	0.00%	0.00%							
3961	2007	0.00	0.00	0.00	0.00	NA	0.00%	0.00%						
3961	2008	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%					
3961	2009	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%				
3961	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%			
3961	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%		
3961	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	
3961	2015	18,160.56	5,944.50	0.00	5,944.50	32.73%	32.73%	32.73%	32.73%	32.73%	32.73%	32.73%	31.20%	31.20%
GEN-Backhoes														
3962	2005	0.00	0.00	0.00	0.00	NA								
3962	2006	6,107.46	0.00	0.00	0.00	0.00%	0.00%							
3962	2007	103,717.75	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3962	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3962	2009	36,407.84	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3962	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3962	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3962	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3962	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
GEN- Welders														
3963	2005	0.00	0.00	0.00	0.00	NA								
3963	2006	0.00	0.00	0.00	0.00	NA	NA							
3963	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3963	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3963	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3963	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3963	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3963	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3963	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Communications Equipment														
3970	2005	0.00	0.00	0.00	0.00	NA								
3970	2006	0.00	0.00	0.00	0.00	NA	NA							
3970	2007	19,353.73	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3970	2008	7,328.31	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3970	2009	5,471.28	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3970	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3970	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3970	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3970	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
GEN-Comm Eq. Mob Radios														
3971	2005	0.00	0.00	0.00	0.00	NA								
3971	2006	0.00	0.00	0.00	0.00	NA	NA							
3971	2007	25,620.34	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3971	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3971	2009	13,111.09	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				

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States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3971	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3971	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3971	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3971	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
GEN-Comm Eq. Fixed Radios														
3972	2005	0.00	0.00	0.00	0.00	NA								
3972	2006	0.00	0.00	0.00	0.00	NA	NA							
3972	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3972	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3972	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3972	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3972	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3972	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3972	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
GEN-Comm Eq. Telemetry														
3973	2005	0.00	0.00	0.00	0.00	NA								
3973	2006	0.00	0.00	0.00	0.00	NA	NA							
3973	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3973	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3973	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3973	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3973	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3973	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3973	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Misc. Equipment														
3980	2005	0.00	0.00	0.00	0.00	NA								
3980	2006	0.00	0.00	0.00	0.00	NA	NA							
3980	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3980	2008	1,160.52	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3980	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3980	2010	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%			
3980	2013	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%		
3980	2014	49,059.29	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3980	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OTH-Oth Tang Prop - Network - H/W														
3993	2005	0.00	0.00	0.00	0.00	NA								
3993	2006	0.00	0.00	0.00	0.00	NA	NA							
3993	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3993	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3993	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3993	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3993	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3993	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3993	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA

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States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
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Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
OTH-Oth Tang Prop - PC Hardware														
3994	2005	0.00	0.00	0.00	0.00	NA								
3994	2006	0.00	0.00	0.00	0.00	NA	NA							
3994	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3994	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3994	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3994	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3994	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3994	2014	319,515.44	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3994	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OTH-Oth Tang Prop - PC Software														
3995	2005	0.00	0.00	0.00	0.00	NA								
3995	2006	0.00	0.00	0.00	0.00	NA	NA							
3995	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3995	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3995	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3995	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3995	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3995	2014	55,788.43	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

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States of Iowa, Illinois, and Missouri
 Retirements, Gross Salvage and Cost of Removal
 Data for 2005-2015

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
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**LIBERTY UTILITIES (MIDSTATES NATURAL
GAS) CORP. D/B/A LIBERTY UTILITIES
SHARED SERVICES UNIT
DEPRECIATION RATE STUDY
As of September 30, 2015**



<http://www.utilityalliance.com>

**LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
SHARED SERVICES UNIT
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY**

Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities (“Liberty” or “Company”) engaged Alliance Consulting Group to conduct a depreciation study of the Company’s Shared Services Unit (“SSU” or “Shared Services”) operations depreciable assets as of fiscal year end September 30, 2015. SSU provides support to Liberty’s regulated utility divisions.

The regulated natural gas utility divisions during the year ended September 30, 2015 were:

- Liberty Illinois Division
- Liberty Iowa Division
- Liberty Missouri Division

The study proposes depreciation parameters, including Average Service Life, Iowa Curve, and Net Salvage percentages as set forth in Appendix C, which are a result of actuarial analysis of Liberty, statistical analysis, and professional judgement after meeting with various company experts. The depreciation study developed depreciation parameters at an account level.

The depreciation rates are based on the straight-line method, average life group (“ALG”) procedure, and remaining-life technique. This study results in an annual depreciation expense accrual of \$3.0 million when applied to depreciable plant balances as of September 30, 2015.

**LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
 D/B/A LIBERTY UTILITIES
 SHARED SERVICES UNIT
 DEPRECIATION RATE STUDY
 As of September 30, 2015
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PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property as recorded on Shared Services' books at September 30, 2015. The account based depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of Shared Services' property on a straight-line basis. Non-depreciable property and property which is amortized, such as intangibles were excluded from this study.

Shared Services is a division of the Company dedicated to providing various support services to three of its natural gas operating companies. As of the study date, Shared Services supported regulated gas utility divisions operating in Illinois, Iowa, and Missouri.

STUDY RESULTS

The existing and current study annual depreciation expense results from the use of Iowa Curve dispersion patterns with average service life, the average life group ("ALG") procedure and remaining-life technique, and consideration of net salvage in the development of the study recommended depreciation rates. Detailed information for each of these factors will follow in this report.

Overall depreciation rates for Shared Services depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual of \$3.0 million based on Shared Services' depreciable investment at September 30, 2015. The accrual at existing rates based on Shared Services' depreciable investment at September 30, 2015 is \$2.9 million. Thus the study recommendation results in an increase of \$99 thousand in annual depreciation expense.

Appendix A presents the recommended study annual accrual rates and amounts. Appendix B presents the comparison of the depreciation rates and annual accruals. Appendix C presents the recommended study mortality and net salvage parameters by account.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense, that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. On retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

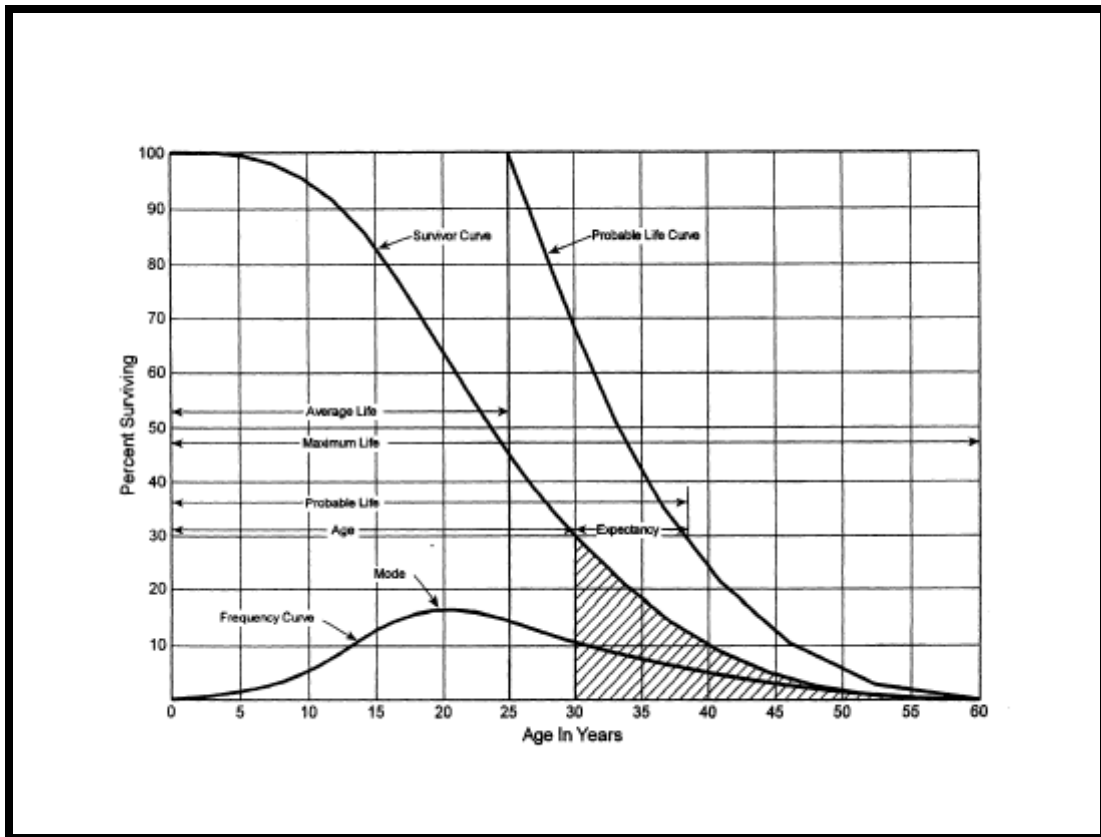
The straight-line, average life group ("ALG"), remaining-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each vintage is computed by dividing the original cost of the asset vintage (less allocated depreciation reserve less estimated net salvage) by its respective average remaining life. The resulting annual accrual amounts were divided by the original cost of the depreciable property in each account to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group, and were computed in a direct weighting by multiplying each vintage or account balance times its remaining life and dividing by the plant investment in service at September 30, 2015. The computations of the annual depreciation rates are shown in Appendix A, and the weighted remaining life

calculations are shown in the study's workpapers. A comparison of current vs. proposed rates is shown in Appendix B.

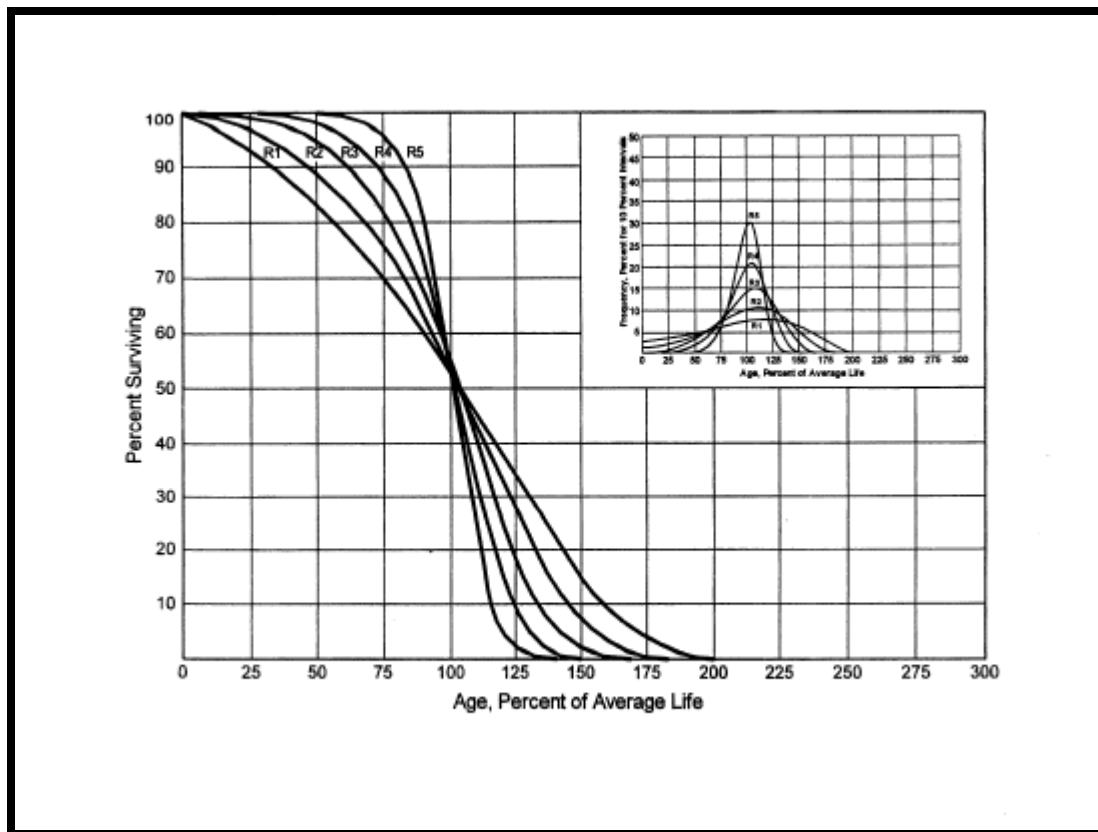
It was not possible to preform actuarial analysis on the assets in Shared Services. All assets in Shared Services were added as new items after Liberty purchased the Atmos properties in 2012. As of September 30, 2015, no retirement data had been booked in Shared Services. Thus, judgment was used to some degree on all accounts.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior century. Through common usage, revalidation and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. For distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of "R" moded curves is shown below.



Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. An "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. A special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, survivor curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of judgment concerning current conditions and

future trends along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern.

Actuarial Analysis

There was no retirement data available for Shared Services to perform actuarial analysis. When sufficient data exists to do so, actuarial analysis (retirement rate method) will be used in evaluating historical asset retirement experience where vintage data are available and sufficient retirement activity is present. In actuarial analysis, interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated. The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all of the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table. The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. When data is available, accounts will be analyzed using this method.

Judgment

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment. At the very least for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for Shared Services' accounts requires judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the Retirement Rate actuarial methods. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Average Life Group Depreciation

The average life group ("ALG") depreciation procedure was used to group the assets within each account. After an average service life and dispersion were selected for each account, those parameters were used to estimate what portion of the surviving investment of each vintage was expected to retire. The depreciation of the group continues until all investment in the vintage group is retired. ALG groups are defined by their respective account dispersion, life, and salvage estimates. A straight-line rate for each ALG group is calculated by computing a composite remaining life for each group across all vintages within the group, dividing the remaining investment to be recovered by the remaining life to find the annual depreciation expense and dividing the annual depreciation expense by the surviving investment. The resultant rate for each ALG group is designed to recover all retirements less net salvage when the last unit retires. The ALG procedure recovers net book cost over the life of each account by averaging many components.

Theoretical Depreciation Reserve

The book depreciation reserve was allocated among accounts within a function through use of the theoretical depreciation reserve model. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals.

The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The average life group method requires

an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the group is retired. Estimated average service lives and dispersion determine the amount within each average life group. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

$$RR = 1 - \frac{(Average\ Remaining\ Life)}{(Average\ Service\ Life)} * (1 - Net\ Salvage\ Ratio)$$

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. Once the first three stages were complete, the fourth phase began. This phase involved the calculation of depreciation rates and documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively to put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Considerations Section of this study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is beneficial when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in the Detailed Discussion of this study in the life analysis and salvage analysis sections and also in workpapers.

Phase 2 is where the actuarial analysis is performed. Phase 2 and 3 overlap to a significant degree. The detailed property records information is used in phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation process performed in phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group to determine values and trends in gross salvage and removal cost. This information was then carried forward into phase 3 for the evaluation process.

Phase 3 is the evaluation process which synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in phase 1. Phases 2 and 3 allow the depreciation analyst to validate the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix B. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1¹ documents the steps used in conducting this study. Depreciation Systems, page 289 documents the same basic processes in performing a depreciation study which are: Statistical analyses, evaluation of statistical analysis, discussions with management, forecast assumptions, write logic supporting forecasts and estimation, and write final report.

¹ Public Utility Finance & Accounting, A Reader

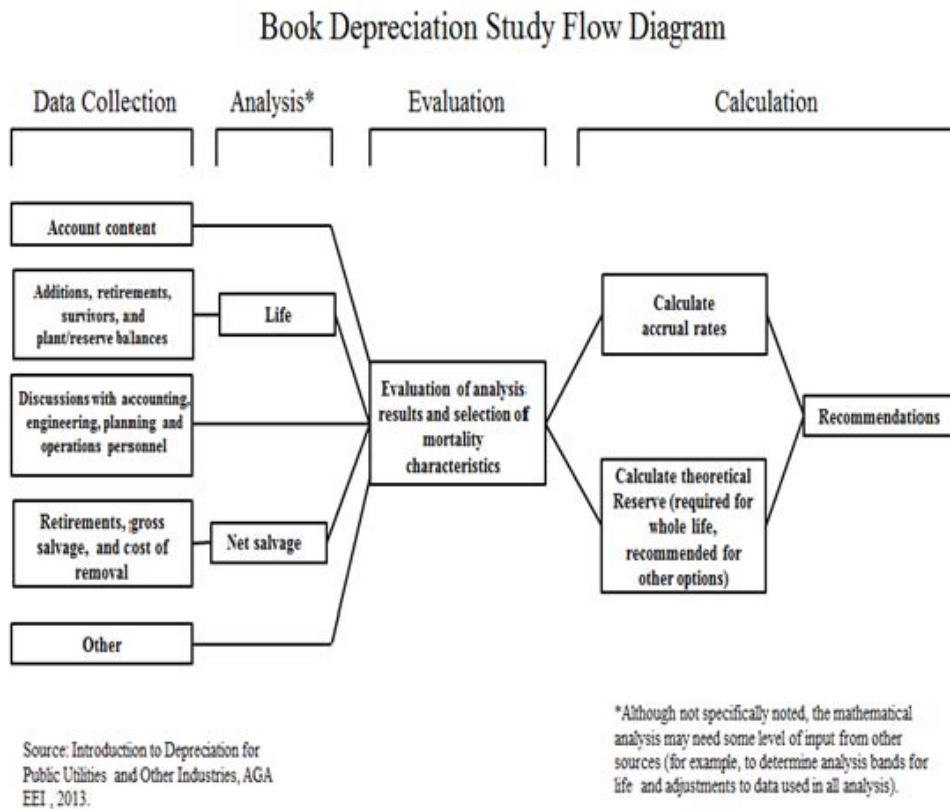


Figure 1

SHARED SERVICES DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable property accounts of Shared Services were calculated by the straight line, equal life group, and remaining-life system. With this approach, remaining lives were calculated according to standard ALG group expectancy techniques, using the Iowa Survivor Curves noted in the calculation. For each plant account, the difference between the surviving investment, adjusted for estimated net salvage and the allocated book depreciation reserve, was divided by the average remaining life to yield the annual depreciation expense. These calculations are shown in Appendix B.

Remaining Life Calculation

The establishment of appropriate average service lives and retirement dispersions for each account within a functional group was based on engineering judgment that incorporated available accounting information analyzed using the Retirement Rate actuarial methods. After establishment of appropriate average service lives and retirement dispersion, remaining life was computed for each account. Theoretical depreciation reserve with zero net salvage was calculated using theoretical reserve ratios as defined in the theoretical reserve portion of the General Discussion section. The difference between plant balance and theoretical reserve was then spread over the ALG depreciation accruals. Remaining life computations are found for each account in the study's workpapers. .

Calculation Process

Annual depreciation expense amounts for all accounts were calculated by the straight line, remaining life procedure.

In a whole life representation, the annual accrual rate is computed by the following equation,

$$\text{Annual Accrual Rate} = \frac{(100\% - \text{Net Salvage Percent})}{\text{Average Service Life}}$$

Use of the remaining life depreciation system adds a self-correcting

mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of the group. With the straight line, remaining life, average life group system using Iowa Curves, composite remaining lives were calculated according to standard broad group expectancy techniques, noted in the formula below:

$$\text{Composite Remaining Life} = \frac{\sum \text{Original Cost} - \text{Theoretical Reserve}}{\sum \text{Whole Life Annual Accrual}}$$

For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the composite remaining life to yield the annual depreciation expense as noted in this equation where the net salvage percent represents future net salvage.

$$\text{Annual Depreciation Expense} = \frac{\text{Original Cost} - \text{Book Reserve} - (\text{Original Cost}) * (1 - \text{Net Salvage \%})}{\text{Composite Remaining Life}}$$

Within a group, the sum of the group annual depreciation expense amounts, as a percentage of the depreciable original cost investment summed, gives the annual depreciation rate as shown below:

$$\text{Annual Depreciation Rate} = \frac{\sum \text{Annual Depreciation Expense}}{\sum \text{Original Cost}}$$

These calculations are shown in Appendix B. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves were allocated to individual accounts and the theoretical reserve computation was used to compute a composite remaining life for each account.

Vintage Group Amortization

Shared Services proposes to implement vintage group amortization for assets in Accounts 391, 393-395, and 397-399. Under vintage group amortization, assets in those accounts will be retired when they reach the average service life of the group. Shared Services has reviewed the life and net salvage parameters for all accounts in this group. In the life analysis and salvage analysis sections, recommended changes to each account describe the depreciation parameters requested for those accounts. The amortization accrual for General Property plant can change to reflect the reserve position of the various accounts and small changes in life parameters and net salvage percentages. This allows Shared Services to continue to track small dollar General Property plant items in a cost efficient manner. The amortization accrual calculations for vintage group amortization are reflected in Appendix A-1.

At this point, the reserve position for these accounts is being set equal to the theoretical reserve. If a reserve difference exists in the future, this study recommends that the remaining life of each plant be used to recover the General Property plant reserve deficiency for each account in this study.

LIFE ANALYSIS

For Shared Services, it was not possible to apply the retirement rate actuarial analysis method. Shared Services assets were added after Liberty's acquisition of Atmos Energy Corporation in 2013. Since the assets were all added in 2012-2015, there was no life analysis history available to perform life analysis for these assets.

NET SALVAGE CONSIDERATIONS

When a capital asset is retired, physically removed from service and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset).

Net Salvage Characteristics

The disposal of general plant assets generally does not incur cost of removal and salvage has declined in recent years. There has been limited asset retirement activity for Shared Service. Therefore, in this study a zero percent net salvage is recommended for each account.

Account Life and Net Salvage Analysis- Depreciated Assets

3900 – Structures & Improvements (Proposed 40 R2, 0% net salvage)

This account includes the cost of buildings and improvements including the new Missouri Headquarters office and the third Jackson office expansion. The account balance is \$6.6 million. Based on judgment and type of assets this study recommends a 40 year life with the R2 dispersion pattern. No graph is provided. Little to no salvage is expected. However, some cost of removal at end of life is expected for some of the assets but none has been recorded. Therefore, a zero percent net salvage is recommended at this time.

3921 – Transportation Equipment < 12,000 LB (Proposed 10 L2, 0% Net salvage)

This account consists of all transportation equipment, 4 SUV trucks. The balance is \$194 thousand. Based on the surviving assets, this study recommends a 10 L2. No graph is provided. There is no cost of removal and salvage history for this account. At this time a zero percent net salvage rate is recommended for this account.

Account Life and Net Salvage Analysis- Amortized Assets

3910 – Office Furniture and Equipment (Proposed 20 SQ, 0 % Net Salvage)

This account consists of office furniture, such as desks, chairs, bookcases, credenzas, file cabinets, office machines and other miscellaneous equipment. The balance is \$822 thousand. Based on judgment and type of assets this study recommends a 20 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

3940 – Tools, Shop & Garage Equipment (Proposed 20 SQ, 0 % Net Salvage)

This account consists of various small tools and equipment used in an office such as metal detectors, cylinder racks, and weld testers. The balance is \$16 thousand in this account. Based on judgment and type of assets this study recommends a 20 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3980 - Miscellaneous Equipment (Proposed 20 SQ, 0 % Net Salvage)

This account consists of various signage items for the office building. The balance is \$157 thousand. Based on judgment and type of assets this study recommends a 20 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3990 – Other Tangible Property (7 SQ, 0% net salvage)

The other tangible property account holds implementation costs for website and other shared services information technology projects. The account balance is \$250 thousand. Based on judgment and type of assets this study recommends a 7 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3991 – Other Tangible Property Servers H/W (5 SQ, 0% net salvage)

The other tangible property account contains an Itron server. The account balance is \$30 thousand. Based on judgment and type of assets this study recommends a 5 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3993 – Other Tangible Property Network Hardware (7 SQ, 0% net salvage)

The other tangible property account holds various computer related assets such as port switches, antennas, it cabling, and telecommunications hardware. The account balance is \$348 thousand. Based on judgment and type of assets this study recommends a 7 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3994 – Other Tangible Property PC Hardware (5 SQ, 0% net salvage)

The other tangible property account holds some laptops, monitors, conference room projectors, and various types of hardware for Arcgis, Gas Control, Itron, and infrastructure. The account balance is \$2.9 million. Based on judgment and type of assets this study recommends a 5 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3995 – Other Tangible Property Software (3 SQ, 0% net salvage)

The other tangible property account holds miscellaneous computer software. Before this study all software was booked in the same account, but this study recommends separating software into three groups based on service life. The account balance is \$414 thousand. Based on judgment and type of assets this study recommends a 3 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3995 – Other Tangible Property Software (5 SQ, 0% net salvage)

The other tangible property account holds computer software such weather mapping, telecom, networking, Gastar and Customer Service Software. The account balance is \$12.9 million. Based on judgment and type of assets this study recommends a 5 year life and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

Account 3995 – Other Tangible Property Software (7 SQ, 0% net salvage)

The other tangible property account holds computer software such as billing, accounting, and software for importing meter reads. The account balance is \$9.9 million. Based on judgment and type of assets this study recommends a 7 year life

and vintage group amortization. No graph is provided. Little to no salvage is expected. Therefore, a zero percent net salvage is recommended at this time.

APPENDIX A

Computed Depreciation Rates

LIBERTY UTILITIES MID-STATES
Shared Services
Using Reallocated Depreciation Reserves
Computation of Proposed Depreciation Accrual Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance	Allocated Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Average Remaining Life	Annual Accrual Amount	Proposed Annual Accrual Rate
3900	General Structures & Improvmnt	6,571,913.54	356,524.59	0.00%	0.00	6,215,388.95	37.75	164,633.82	2.51%
3921	Transportation Equip<12,000 LB	193,571.32	44,445.33	0.00%	0.00	149,125.99	7.62	19,564.59	10.11%

Filed with the Iowa Utilities Board on July 25, 2016, RPU-2016-0003

APPENDIX A-1

Computed Amortization Rates

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A/ LIBERTY UTILITIES
Shared Services Unit

Computation of Proposed Depreciation Amortization Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance 09/30/2015	Allocated Reserve 09/30/2015	Theoretical Reserve 09/30/2015	Reserve Difference	Remaining Life	Assets to Ret > ASL
3910	Office Furniture & Improvement	821,765.18	61,196.12	61,196.12	0.00	18.51	0.00
3940	Tools, Shop, and Garage Equipment	15,990.17	901.77	901.77	0.00	18.87	0.00
3980	Misc. Equipment	157,494.73	11,807.22	11,807.22	0.00	18.50	0.00
3990	OTH-Other Tangible Property	249,555.28	89,126.89	89,126.89	0.00	4.50	0.00
3991	Other Tangible Property - Servers H/W	30,325.81	15,162.91	15,162.91	0.00	2.50	0.00
3993	Other Tangible Property - Network H/W	348,710.15	124,539.34	124,539.34	0.00	4.50	0.00
3994	Other Tangible Property - PC Hardware	2,884,963.58	862,505.33	862,505.33	0.00	3.51	0.00
3995	Software 3 Yr Life	414,155.77	207,077.89	207,077.89	0.00	1.50	0.00
3995	Software 5 Yr Life	2,927,436.37	878,230.91	878,230.91	0.00	3.50	0.00
3995	Software 7 Yr Life	9,851,363.89	2,018,155.48	2,018,155.48	0.00	5.57	0.00
	Subtotal	17,701,760.93	4,268,703.86	4,268,703.86	-		-

Filed with the Iowa Utilities Board on July 25, 2016, RPU-2016-0003

After Retirement of Fully Accrued Assets

Account	Description	Balance 09/30/2015	Allocated Reserve 09/30/2015	Proposed Life	Annual Amortization	Accrual For Reserve Deficiency	Proposed Accrual Rate
(a)	(b)	(c)	(d)	(e)	(f) = (c)/(e)	(g)	(h) = 1 / (e)
3910	Office Furniture & Improvement	821,765.18	61,196.12	20	41,088.26	0.00	5.00%
3940	Tools, Shop, and Garage Equipment	15,990.17	901.77	20	799.51	0.00	5.00%
3980	Misc. Equipment	157,494.73	11,807.22	20	7,874.74	0.00	5.00%
3990	OTH-Other Tangible Property	249,555.28	89,126.89	7	35,650.75	0.00	14.29%
3991	Other Tangible Property - Servers H/W	30,325.81	15,162.91	5	6,065.16	0.00	20.00%
3993	Other Tangible Property - Network H/W	348,710.15	124,539.34	7	49,815.74	0.00	14.29%
3994	Other Tangible Property - PC Hardware	2,884,963.58	862,505.33	5	576,992.72	0.00	20.00%
3995	Software 3 Yr Life	414,155.77	207,077.89	3	138,051.92	0.00	33.33%
3995	Software 5 Yr Life	2,927,436.37	878,230.91	5	585,487.27	0.00	20.00%
3995	Software 7 Yr Life	9,851,363.89	2,018,155.48	7	1,407,337.70	0.00	14.29%
		17,701,760.93	4,268,703.86		2,849,163.77	-	

APPENDIX B

Comparison of Rates and Accrual

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
Shared Services
Using Reallocated Depreciation Reserves
Comparison of Existing vs Proposed Depreciation Rates
Using Average Life Group Depreciation
As of September 30, 2015

Acct	Description	Plant at 9/30/15	Current Rate	Annual Expense	Proposed Rate	Proposed Expense	Expense Change
3740	Land and Land Rights	157,767.08					
3900	General Structures & Improvmnt	6,571,913.54	5.00%	328,595.68	2.51%	164,633.82	(163,961.85)
3910	Office Furniture & Improvement	821,765.18	4.75%	39,033.85	5.00%	41,088.26	2,054.41
3921	Transportation Equip<12,000 LB	193,571.32	10.39%	20,112.06	10.11%	19,564.59	(547.47)
3940	Tools, Shop, and Garage Equipment	15,990.17	4.50%	719.56	5.00%	799.51	79.95
3980	Misc. Equipment	157,494.73	3.60%	5,669.81	5.00%	7,874.74	2,204.93
3990	OTH-Other Tangible Property	249,555.28	14.29%	35,661.45	14.29%	35,650.75	(10.70)
3991	Other Tangible Property - Servers H/W	30,325.81	18.98%	5,755.84	20.00%	6,065.16	309.32
3993	Other Tangible Property - Network H/W	348,710.15	18.98%	66,185.19	14.29%	49,815.74	(16,369.45)
3994	Other Tangible Property - PC Hardware	2,884,963.58	18.98%	547,566.09	20.00%	576,992.72	29,426.63
3995	Software 3 Yr Life	414,155.77	14.29%	59,182.86	33.33%	138,051.92	78,869.06
3995	Software 5 Yr Life	2,927,436.37	14.29%	418,330.66	20.00%	585,487.27	167,156.62
3995	Software 10 Yr Life	9,851,363.89	14.29%	1,407,759.90	14.29%	1,407,337.70	(422.20)
Plus Amortization for Reserve Difference						0.00	0.00
Total		24,625,012.87		2,934,572.93		3,033,362.18	98,789.25

APPENDIX C

Life and Net Salvage Parameters

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
D/B/A LIBERTY UTILITIES
SHARED SERVICES UNIT
PROPOSED DEPRECIATION PARAMETERS
BY ACCOUNT AT SEPTEMBER 30, 2015

<u>Acct</u>	<u>Description</u>	<u>Average Service Life</u>	<u>Iowa Curve</u>	<u>Net Salvage Percentage</u>
3900	Stuctures and Impovements	40	R2	0%
3910	Office Furniture & Improvement	20	L2	0%
3921	Transportation Equip<12,000 LB	10	SQ	0%
3940	Tools, Shop, and Garage Equipment	20	SQ	0%
3980	Misc. Equipment	20	SQ	0%
3990	OTH-Other Tangible Property	7	SQ	0%
3991	Other Tangible Property - Servers H/W	5	SQ	0%
3993	Other Tangible Property - Network H/W	7	SQ	0%
3994	Other Tangible Property - PC Hardware	5	SQ	0%
3995	Other Tangible Property - Software 3 Yr Life	3	SQ	0%
3995	Other Tangible Property - Software 5 Yr Life	5	SQ	0%
3995	Other Tangible Property - Software 7 Yr Life	7	SQ	0%